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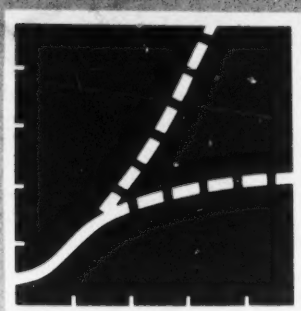

Population Reports

Series M
Number 4
November 1979

SPECIAL TOPIC MONOGRAPH

Population Information Program, The Johns Hopkins University, Hampton House, 624 North Broadway, Baltimore, Maryland 21205, USA

Age at Marriage and Fertility

Summary. Throughout the world, women who marry late — in their mid or upper 20s — tend to have fewer children than women who marry early. In Europe since the beginning of the modern era, in Japan during the first half of this century, and in a number of other Asian countries for the last three decades, delayed marriage has had an important effect in limiting population growth. Today age at marriage is less important than it used to be in determining how many children a couple will have because deliberate use of modern methods of birth control has become the single most important factor on a worldwide basis in determining family size.

Nevertheless, the age at which people marry will be particularly important for the next two decades because by 1990 there will be more than one billion young people of marriageable age — roughly 15-29 years old — in the developing countries. The decisions they make on marriage and childbearing will determine the pace of population growth for years to come. For countries that are trying to reach a balance between population and resources, policies that encourage this younger generation to postpone marriage will also encourage them to limit fertility after marriage and will contribute on a continuing basis to economic and social development.

Later marriage reduces rates of population growth because it means:

- a shorter period of reproductive life exposed to the possibility of pregnancy and
- a longer interval between generations.

At the same time, if women postpone marriage from age 16 to age 19, for example, or from 18 to 21, that delay means:

- women can stay in school longer and acquire skills and training for income-generating jobs;
- women can work before marriage to contribute to their own and their families' income or savings; and
- women can enter marriage with greater emotional and physical maturity to meet the challenges of family life.

All these opportunities, which are virtually closed to a girl who marries at 15 or 16, will not only help women understand the value of spacing children and limiting family size later, but also will enable them to play more active roles in family, community, and national development.

Throughout history, drastic changes in the age at which women marry usually have accompanied drastic changes in the economic, social, political, and religious environment that has encouraged early marriage. Even where change has been less rapid, rising age at marriage appears to have been, historically, a response to stress, a way — sometimes the only way — for young people to defer family responsibility until they had sufficient resources to support a family. Today, while age at marriage may still increase in response to stress — stress compounded by rapid population growth — it may also rise in response to opportunity — the opportunity for women to be educated and to work productively outside the home.

Regional Differences

In Western Europe, the demographic transition from high fertility and high mortality to low fertility and low mortality began as early as the 16th century, when a pattern of later marriage with resultant lower fertility was first established. The most rapid drop in fertility occurred in the late 19th century, however, with the spread of effective birth control technology. Today Europe has the lowest fertility rates in the world as well as the highest legal and actual ages at marriage. Moreover, Europe is the only area of the world where many countries have set the same legal minimum ages for both sexes.

In Asia, age at marriage and fertility currently run the gamut from child marriage and high fertility in Bangladesh and parts of India to marriage delayed until after age 23 in China, Japan, Korea, and Sri Lanka, with low fertility. In Japan, Korea, and Sri Lanka the usual age at marriage moved gradually upward during the first half of the 20th century with only slight declines in fertility. In the late 1940s abortion was legalized in Japan, and in the 1960s a national family planning program was initiated in Korea. Use of abortion and contraception led to rapid declines in fertility. In Sri Lanka age at marriage has continued to climb while fertility, especially among younger women, has declined to a moderately low level.

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Table 1. Early Marriage, Fertility, and Socioeconomic Factors: Regional Mean Rates Based on Most Recent Available Data (Weighted Means from Tables 3, 6, 9, and 10)

	% of Females Age 15-19 Ever-married	Age-specific Fertility Rate, 15-19	Total Fertility Rate	% of Females in School at 1st & 2nd Levels	% of Females Age 20-24 Economically Active	% of Population in Urban Areas
East Asia	2	9	2.5	92	61	65
Southeast Asia	20	101	5.2	57	38	20
Indian Subcontinent	58	101	5.5	40	17	19
Middle East	34	99	6.1	36	16	34
Africa	55	164	6.2	30	46	16
Latin America	17	89	4.9	73	39	57

The People's Republic of China has been the first government to embark on a deliberate program to increase the age at marriage to the mid or late 20s and, concurrently, to establish a comprehensive national family planning program — one with special emphasis on young people. As a result, birthrates have been cut in half since 1950. Chinese leaders now stress the one-child family as the way to check population growth since further increases in age at marriage are unlikely.

In East Asia, the largest fertility declines are occurring among older married women who want no more children rather than among younger women because postponing marriage or first birth is now customary. Asian trends appear to follow the European pattern, with some gradual, slight fertility declines associated with increasingly late marriage while subsequent, more rapid declines are associated mainly with the introduction of new, more effective methods to control fertility directly.

Outside East Asia (where the greatest changes in fertility have occurred), few clear relationships between age at marriage and total fertility rates are evident. In the Middle East, age at marriage has increased somewhat and fertility has declined somewhat, but not always in the same countries. The segregation of women, which is characteristic of more traditional Muslim societies, may encourage early marriage and high fertility.

In Africa, age at marriage is early, fertility high, and neither seems to have changed much. Paradoxically, within Africa, countries where early marriage is less common have slightly higher fertility than countries where early marriage is frequent. Health conditions, subfecundity, polygamy, and marital instability may make more difference in individual and national fertility rates in Africa than age at marriage.

In Latin America, some marriages can be defined as consensual unions, trial marriages, visiting unions, or some variation of these patterns. As a result, the age at legal marriage in Latin America and the Caribbean is usually higher than the age at which young women first become sexually active or bear children. In the last two decades age at marriage has not increased much, and most of the declines in fertility have occurred among older women. One explanation may be that family planning programs have been implemented in the context of maternal and child health care in order to minimize political and religious opposition. Therefore they have given less attention to the needs of younger women and men.

In the developing world as a whole, age at marriage is highest and fertility is lowest in East Asia. Both East Asia and Latin America have a higher percentage of women enrolled in school and of population residing in urban areas than other regions. Yet total fertility rates in Latin America are almost as high as in Southeast Asia, where education and urbanization rates are far lower (see Table 1). Fertility is highest in Africa and the Middle East, and age at marriage remains lowest in the Indian subcontinent and Africa.

Of 26 developing countries with population of over one million in which fertility has declined during the past two decades, rising age at marriage has contributed substantially to total fertility declines in eight: China, Hong Kong, Indonesia, Malaysia, the Philippines, Singapore, Sri Lanka, and Tunisia. In South Korea and Taiwan, prior increases in age at marriage facilitated fertility declines after 1950. Without changes in reported age at marriage, fertility among women 15-19 or 20-24 has declined substantially, with marked effect on the total fertility rate, in Brazil, Panama, and Peru.

Policy Implications

For policy makers, regional comparisons show that age at marriage, like fertility itself, interacts with other social and economic influences within a given society or culture. As a result, the status of women in a country and their access to education and employment may have at least as much impact on age at marriage as a legally enacted minimum age. Ultimately, both the status of women and age at marriage may depend more on the commitment of political leadership and on programs benefiting women which result from that commitment than on the specific laws on age at marriage.

Recent research has demonstrated that family planning programs and the use of contraception and abortion have had a greater impact in reducing fertility than has diffuse social change as measured by a variety of factors, including age at marriage. Yet, with more than one billion young people soon to reach the age for marriage and reproduction, all policies that can influence the fertility of young people are vital, and none of these policies should be considered in isolation. For example, family planning programs that emphasize sterilization or IUDs for older women who already have large families will not meet the needs of young women who want to postpone their first pregnancies. Similarly, policies that raise the age at marriage but do not at the same time make it possible for young people to acquire contraceptives may lead to higher rates of abortion and births out of wedlock. Continued education and income-generating employment for women will encourage both later marriage and smaller families, but if these opportunities exist only in the cities and not in rural areas, they will have little impact on most of the population.

For countries that want to achieve a higher level of socioeconomic development, the objectives of more education and employment for women, a higher age at marriage, and much greater availability of voluntary family planning services, especially for younger couples and in rural areas, are all interrelated aspects of the same process of demographic change and should be looked on as complementary and mutually reinforcing goals. **End of Summary**

BASIC ISSUES

The age at which women marry is an important factor in population growth. The reason is obvious: marriage often represents the socially sanctioned initiation of sexual activity and childbearing for women. For men, in addition to assuring convenient access to sexual relations, marriage constitutes a commitment to support the children born as a result of sexual activity (87, 154). Thus it is not surprising to find that, on a worldwide basis, early marriage is associated with high fertility and late marriage with low fertility.

Later marriage of women is also associated with many of the beneficial and productive aspects of developed societies. It permits women to achieve more education, to train for useful careers, to earn cash incomes, and to contribute in a more meaningful way to family, community, and national life. Later marriage allows women to enter matrimony on a more equal basis with their husbands, less as economic and social dependents. Later marriage may also encourage women to make decisions about childbearing and child raising based more on their own abilities and their children's needs than on traditions encouraging high fertility (84, 85, 254).

There are at least three important demographic reasons that individual women who marry early tend to have more children than those who marry later and to hasten population growth. If women marry young:

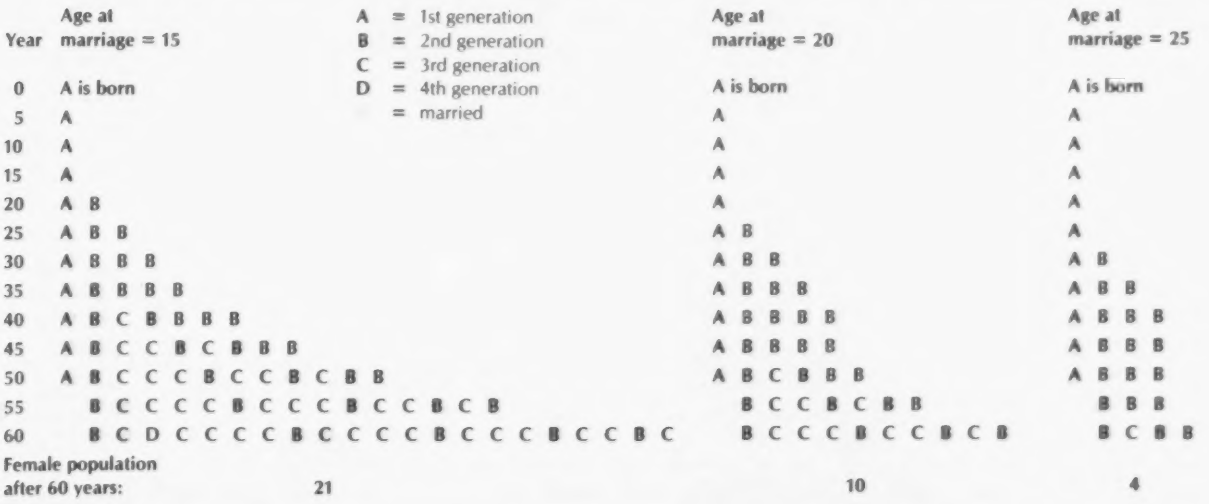
- they are likely to have sexual intercourse frequently throughout their most fecund years;
- they begin childbearing at an earlier age and thus live through a longer period of exposure to conception; and
- they shorten the interval before the next generation is born and begins childbearing.

All three of these factors mean more rapid population growth. Moreover, from a socioeconomic point of view, women who marry young tend to have less education and less opportunity to undertake jobs or roles other than motherhood. Bearing and raising children then becomes the major source of their status in the family and community. This lowers their incentive to limit family size.

Arithmetically, it is easy to demonstrate that, other things being equal, a family in which all women marry at age 15 and produce daughters every five years until age 40 will have more than five times as many living members after a period of 60 years as a family in which all women marry at age 25 and also produce daughters every five years until age 40 (see Figure 1). This substantial difference occurs because women married at age 15 would produce in 60 years five children apiece and the first member of the fourth generation, whereas women married at age 25 would produce in the same period only three children apiece and the first member of the third generation.

Despite the dramatic contrasts shown in Figure 1, there are a number of reasons that the impact of later marriage on fertility may in fact never reach the limit this hypothetical scheme suggests. These reasons include: the deliberate use of contraception and abortion to control fertility, regardless of marital status; the different definitions of marriage (and hence of age at marriage) in different cultures; the probability of more sexual activity and pregnancy outside of marriage as the age of marriage rises, a factor which varies in different cultures; and a number of other demographic qualifications and socioeconomic conditions that influence fertility differently at various ages, both within and outside marriage.

Figure 1. Arithmetic Impact of Age at Marriage on Population Growth: A Hypothetical Model


A = 1st generation
B = 2nd generation
C = 3rd generation
D = 4th generation
= married
Year
Age at marriage = 15
Age at marriage = 20
Age at marriage = 25
0 A is born A is born A is born
5 A A A
10 A A A
15 A A A
20 A B A A
25 A B B A A
30 A B B B A B
35 A B B B B A B B
40 A B C B B B B A B B B
45 A B C C B C B B B A B B B
50 A B C C C B C C B C B B A B C B B B A B B B
55 B C C C C B C C C B C C B C B C B C B B B B
60 B C D C C C C B C C C C B C C C B C C B C B B C B B
Female population after 60 years:
21
10
4

If all women give birth to daughters at 5-year intervals after marriage and until age 40, how much difference would age at marriage make to population size in 60 years? This diagram, showing only females in the population, illustrates the difference. If age at marriage is 15, shown in the left-hand portion of the figure, woman A marries in the 15th year and gives birth to a daughter, B, in the 20th year. By the 40th year, A has had five daughters and the eldest, B, has already married and gives birth to her first daughter, C. After 60 years, if age at marriage is 15, the total female population (assuming A dies between the 50th and 55th years) would be 21. If age at marriage is 20 (central portion of figure), the female population would be 10. If age at marriage is 25 (right), the female population would be 4.

This issue of **Population Reports** was prepared by Alice Henry, M.S., and Phyllis T. Piotrow, Ph.D., of the Population Information Program on the basis of published and unpublished materials, correspondence, and interviews. Joseph H. Maier and Linda J. Christie provided assistance with research. Comments and additional material are welcome.

The assistance of the following reviewers is appreciated: Larry L. Bumpass, John Casterline, John Chao, Pi-Chao Chen, Ruth Dixon, Larry Ewing, Lillian Floge, Howard C. Goodman, Louis Hellman, John F. Kantner, Theodore M. King, James McCarthy, Dorothy Nortman, Reimert T. Ravenholt, Michael Roof, Allan Rosenfield, Jeanne Sinquefield, J. Joseph Speidel, William Sweeney, Barbara Von Elm, David Yaukey, and Nadia Youssef. Martha Bargar was especially helpful as a guide to the Demographic Data Retrieval System (Population Division) and the Information and Research Services of the International Statistical Programs Center, US Bureau of the Census.

Population Reports (USPS 063-150) is published bimonthly (January, March, May, July, September, November) at 624 North Broadway, Baltimore, Maryland 21205, USA, by the Population Information Program of The Johns Hopkins University and is supported by the United States Agency for International Development. Second class postage paid at Baltimore, Maryland, and additional offices. Postmaster to send address changes to **Population Reports,** Population Information Program, The Johns Hopkins University, 624 North Broadway, Baltimore, Maryland 21205, USA.

Population Reports is designed to provide an accurate and authoritative overview of important developments in the population field. It does not represent official statements of policy by The Johns Hopkins University or the US Agency for International Development.

Phyllis T. Piotrow, Ph.D., Director; Helen K. Kolbe, M.S., Co-Director; Ward Rinehart, Editor.

The deliberate use of contraception and abortion to control fertility — which in Europe began in the last century and in many developing countries is now increasing rapidly — means that sexual relations can occur both within and outside of marriage without childbearing as an inevitable consequence. Fertility within marriage (marital fertility) has dropped sharply as the use of contraception has increased, especially among women who want no more children (134). As a result, even in Singapore and Korea, where age of marriage has increased as much as five to six years in the 20th century, with a concomitant reduction in fertility among the youngest women, substantial declines in overall fertility could not have occurred without the reduction in fertility among older women now using a variety of birth control methods. The growing use of contraception means that the initiation of sexual activity — as represented by age at marriage — is not as closely linked to fertility as it once was.

Further weakening the link between age at marriage and fertility is the variety of forms that marriage takes throughout the world. For example, marriage varies from a formal but unconsummated child marriage arranged by parents (as in some Asian countries) to a consensual union without legal or religious sanction contracted by consenting individuals (as in Latin America and the Caribbean). Marriage may be marked by the beginning of cohabitation, the beginning of sexual activity, the birth of a child, or a formal ceremony, or it may be a process in which these events occur over an extended period of time and not necessarily in the same order for every person in the society (87, 154, 299). Obviously the more marriage marks the beginning of sexual activity, the more strongly age at marriage will influence age at first birth and completed family size.

A third factor that also influences — and somewhat reduces — the impact of later age at marriage on fertility is the probability of more sexual activity outside of marriage as the age of marriage rises. Like the definition of marriage, this probability varies in different cultures. In regions where premarital sexual activity is strongly condemned and where unmarried men and women do not come into close contact, as in the Muslim countries, women who delay marriage will in effect be practicing sexual abstinence for several years longer. Their abstinence may well mean lower overall fertility.

Data from the developing countries on sexual behavior outside marriage are scarce. One of the best illustrations that sexual activity among unmarried women increases with age comes from the Costa Rica World Fertility Survey (313). Among 898 single women age 20-49 interviewed in the survey, 18.5 percent of the 20-24 year olds had had sexual relations, as had 33.8 percent of the 25-29 year olds. The percentages rose steadily with age to 53.7 percent among the 45-49 year olds.

While marriage undoubtedly increases both the opportunities for sexual intercourse and the likelihood that live births will result, there are few societies where sexual activity before marriage is nonexistent or where males, at least, find no sexual outlet except in marriage. How this premarital sexual activity affects fertility is influenced by the availability of birth control measures (299) as well as by the prevalence of prostitution and male homosexuality (198).

World Fertility Survey data now becoming available suggest that the higher the age at marriage, the higher may be the proportion of women having a child before or within seven months of marriage, that is, a child conceived before marriage (see Table 2). Thus there may be certain social costs if young people defer marriage until their middle or late 20s — including more illegitimate births and, if effective contraceptives are not available to unmarried women, more abortions (299). The benefits, however, appear to outweigh the costs. Certainly marriage at age 13-15 virtually insures that there will be no illegitimacy or premarital sexual activity, but this practice also creates a condition of lifetime dependency for these women (302).

The effects on fertility of raising the age at marriage of course depend on what that age was initially and how late marriage is deferred. On one hand, to postpone marriage from age 13 to age 16 would have very little effect on fertility since many girls of that age are not yet fully fecund. On the other hand, to postpone marriage from age 21 to age 24 could have a substantial effect on fertility since the early 20s are years of high fecundability and, whatever their level of sexual activity, unmarried women in any age group would be unlikely to produce as many live births as married women because of social and economic sanctions against out-of-wedlock childbearing.

Another qualification that complicates the simple notion that late marriage automatically means lower fertility is the possibil-

Table 2. Percent of First Births Occurring Before or Within the First 7 Months of First Marriage, by Age at First Marriage, in Countries with Published World Fertility Survey Reports[a]

	All	Age at Marriage in Years						
		Under 15	15-17	18-19	20-21	22-24	25-29	30+
ASIA & PACIFIC								
Fiji[b]	12.9	6.7	9.1	12.6	16.4	24.6	——— 36.7 ———	
Indonesia	9.0	[c]	10.0	9.4	11.7	14.6	——— 10.7 ———	
Korea, Rep. of	5.7	0.8	2.0	11.3	6.6	10.4	13.9	0.0
Malaysia	13.3	12.1	14.1	15.0	12.2	16.4	7.1	6.9
Sri Lanka	7.4	8.0	8.3	7.7	7.4	5.8	6.2	5.7
Thailand	11.6	4.5	9.3	13.4	12.0	14.3	19.8	11.9
LATIN AMERICA								
Colombia	19.6	14.9	13.6	19.9	22.5	22.9	30.4	44.3
Costa Rica[d]	26.2	7.1	19.5	25.2	26.3	36.0	39.8	47.3
Dominican Republic	6.3	4.3	4.6	7.6	8.2	8.5	13.4	25.0
Mexico	7.5	6.5	——— 7.4 ———		——— 9.3 ———		4.1	7.1
Panama	17.9	7.6	14.6	21.1	20.7	25.6	——— 23.6 ———	
Peru	14.9	12.9	19.1	17.0	16.8	16.3	10.5	7.1

[a]Base consists only of women first married at least five years before survey interview.
[b]Births before marriage and within 11 months of marriage.
[c]Under 13 years, 5.3; 13-14 years, 9.8.
[d]Base excludes women who had no children within 5 years of marriage.

Source: World Fertility Survey (45, 52, 70, 108, 139, 157, 169, 195, 208, 229, 313, 316), Table 2.1.1., except Fiji, E9; Indonesia, 3.5.1.

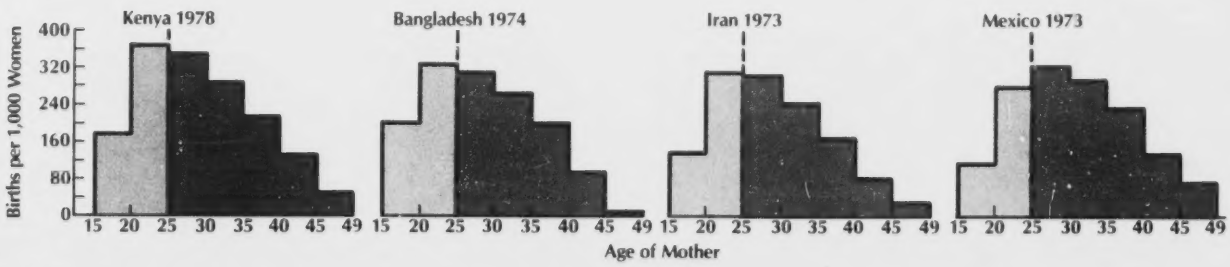
ity that women who marry later will have more children at an older age than women who marry young — a "catch-up" effect. World Fertility Survey data show that Latin American and Asian women who marry late average 10 and 50 percent more births, respectively, in the first five years of marriage than those who marry early (134).

Women who marry young also tend to experience greater marital instability during their reproductive lives. Separation and divorce both reduce fertility by reducing rates of sexual activity. Studies from both developed and developing countries suggest that women who marry before 20 are more likely to have unstable marriages than women who marry in their 20s (87, 103, 132, 133, 292, 309).

With all of these demographic qualifications, biological variations, and cultural differences, it becomes clear that the relationship between age at first marriage and fertility is not so simple as Figure 1 would at first suggest. Another way to depict, somewhat more realistically, what could be the maximum possible impact of delayed marriage on actual total fertility rates is shown in Figure 2. These fertility silhouettes for Kenya, Bangladesh, Iran, and Mexico — four high-fertility countries — show graphically the age-specific fertility rates for women in each 5-year age group from 15 to 49. The black line is drawn at age 25. If age at marriage were raised to 25 — a much older age than is realistic for the near future, if all births to the left of the black line ceased to occur, and if no catch-up increase in later births followed as a result, the total fertility rate would be reduced by about 25 to 35 percent. (This schematic approach must be qualified somewhat, however, because it is based on the fertility rates per 1,000 women in each age group. Because a large proportion of fertile women in these countries are younger than 25, such a reduction in the fertility rates of the younger women would mean a substantially smaller number of births in any given year.)

In short, comparing age at first marriage and total fertility or completed family size means evaluating the impact of the timing of a single social and cultural event on a series of biological events. Such a comparison assumes that the social event, marriage, is an accurate indicator of the beginning of a series of repeated biological events, sexual intercourse, that are the necessary cause of fertility. If sexual activity begins before marriage, however, it becomes difficult to make a clear evaluation.

Figure 2. Age-Specific Fertility Rates in Four Countries: The Contribution of Women Under Age 25



Fertility silhouettes for four high-fertility countries illustrate how much each 5-year age group contributed to the total fertility rate. If all women had their first child at or after age 25, all the births represented by the light green area left of the black vertical line would be eliminated — about one-quarter to one-third of total fertility.

DEFINITIONS OF DEMOGRAPHIC TERMS

Measures of Fertility

Crude birth rate (CBR). The number of live births per 1,000 population in a given year.

Total fertility rate (TFR). The average number of children that would be born alive to a woman during her lifetime if she were to pass through her childbearing years conforming to the age-specific rates of a given year. The total fertility rate equals the sum of the age-specific fertility rates.

Age-specific fertility rate (ASFR). The number of children born alive per 1,000 women in a specific age group. The age groups are usually 15-19, 20-24, 25-29, 30-34, 35-39, 40-44, and 45-49. Age-specific rates calculated for 5-year age groups are summed and multiplied by five to arrive at the total fertility rate.

Marital fertility rate. The number of live births per 1,000 married women age 15-49 in a given year. Calculated by assuming that all births occur after marriage.

Measures of Age at Marriage

Percentage ever-married. The proportion of women in a specified age group who are or have been married.

Singulate mean age at marriage (SMAM). A summary of the marital pattern of a population at a point in time. It is calculated by adding the percentage never-married in each age group, subtracting from that sum the percentage never-married at age 50, and dividing that difference by the difference between 100 and the percentage never-married at age 50. If age at marriage is not changing and other assumptions are met, SMAM represents the mean age at marriage for a group of women all of whom marry by age 50.

Other Terms

Age-sex structure. The composition of a population as defined by the number or proportion of males and females in each age group.

Period measures. Statistics that measure events occurring to all or part of the population in one period of time. Crude birthrates, total fertility rates, singulate mean age at marriage, and proportion married are all period measures.

Cohort measures. Statistics that measure events occurring over time to a cohort, or group of people, sharing a common demographic experience such as year of birth. Completed family size and total number of live births to women who have completed their childbearing are cohort measures of fertility. Mean age at marriage and cumulative proportion married by a given age also are cohort measures.

Demographic transition. The shift occurring in a population from high levels of mortality and fertility to low levels. The shift eventually results in a low rate of population growth. Because the decline in mortality rates precedes the decline in fertility rates, however, a period of rapid population growth occurs during the transition.

Sources: based on Hajnal (92); Petersen (198); Population Reference Bureau (201).

Also, the evaluation often assumes that marrying later merely postpones a woman's pattern of childbearing without otherwise changing it. But if patterns of childbearing change because of conscious fertility control, more childbearing outside of marriage among those who marry late, and more exposure to intercourse due to less widowhood, divorce, and separation among women who marry late, then the relationship between nuptiality and fertility trends is even less obvious. These two problems — the relationship of marriage to sexual exposure and the differences in the reproductive behavior of those who marry at different ages — are major demographic issues in assessing current patterns and trends in age at marriage and fertility.

Socioeconomic Factors

Delayed marriage has been described by Kingsley Davis as part of the typical "multiphasic demographic response" to population pressures (58). Migration to seek better jobs and use of available techniques to curtail fertility are also a part of this multiphasic response. Together they precipitate the demographic transition that has already brought the developed countries from high fertility–high mortality to low fertility–low mortality (326). Developing countries are following a comparable process today, although frequently at a much accelerated pace.

With respect to age at marriage and fertility specifically, Judah Matras has suggested that during the modernization process a country will go through four stages of adjustment to population growth: (1) early marriage–uncontrolled fertility, (2) later marriage–uncontrolled fertility, (3) later marriage–controlled fertility, and finally (4) early marriage–controlled fertility (165). A number of Asian countries seem to be following this pattern.

Accompanying these demographic changes are a variety of socioeconomic changes that reflect and are part of the development process. Researchers and policy makers have devoted much attention to exploring the relationships between fertility and socioeconomic factors. The most comprehensive recent analysis, using data from 94 countries, is by Parker Mauldin, Bernard Berelson, and Zenas Sykes (166). They compared the relative contributions of family planning programs and social setting to declines in crude birthrates from 1965 to 1975. While they observed that, not surprisingly, "The two — social setting and program effort — go together most effectively," their overall conclusion was that:

> Large CBR declines in developing countries were strongly associated with substantial program effort, and high social setting was associated with only modest CBR declines, unless linked with significant family planning effort (166).

While Mauldin and Berelson did not look specifically at the relationship of age at marriage to fertility, they found that age at marriage was moderately related to other indicators of social setting — measures of female school enrollment, infant mortality, and urbanization. These factors were linked to crude birthrates, all to about the same degree (166). Further work shows age at marriage similarly associated with birthrates (171).

In a comparable study, K.S. Srikantan analyzed the relationship of 22 socioeconomic indicators with each other and with the demographic status of both developed and developing countries, using data from about 1970. He found age at marriage linked to about the same degree to each of the other measures, but most closely to female literacy and school enrollment rates. Relating the age at marriage to population change, he found that the percentage of women married at age 15-19 ranged from 2 to 22 in 23 countries identified as having completed the

Just married, a young couple leaves the church in La Paz, Bolivia. Religiously sanctioned marriages, as well as consensual unions, have not always been recorded in Latin American censuses, making trends in age at marriage difficult to assess. (United Nations/Rothstein)

demographic transition and from 13 to 79 in 24 countries that had not yet made the demographic transition. The percentage married at age 15-19 ranged from 4 to 37 in nine countries identified as being in transition (227).

Several studies have looked at the relationship between socioeconomic measures and age at marriage without special reference to fertility. Ruth Dixon, analyzing data from 33 countries in Eastern Europe, the Middle East, and Asia, found that the percentage of women age 20-24 who were married was fairly closely linked to the percentage of women gainfully employed and to female literacy rates, but less closely to two measures not specific to women — urbanization and per capita income (67). Peter Smith has reported that in Indonesia, Thailand, and the Philippines, regional measures of social and economic factors associated with development are linked to later marriage in the major cities, but that regional differences based on religious and cultural distinctions remain even after development factors are taken into account (222).

From a socioeconomic point of view, one of the great difficulties in studying age at marriage and fertility lies in determining what cause-and-effect relationships exist among age at marriage, fertility, and various socioeconomic factors. The relationships are important to policy makers, since causes, once identified, can sometimes be manipulated in order to produce effects — for example, more higher education can be provided for women if more education causes women to marry later, have fewer children, and obtain better jobs. Likewise, minimum legal age at marriage can be raised if later marriage will allow women to continue their schooling and reduce their fertility. Exploring cause-and-effect relationships requires, first, determining how much of a documented change in fertility is due to deliberate birth control, how much is due to change in the age at marriage, and how much to the age and sex composition of the population. Second, it requires examining what motivates later marriage and what motivates contraceptive use to find points of leverage to bring about change.

Analyses that seek to explain fertility in terms of age at marriage on one hand and marital fertility on the other are basically efforts to distinguish the means for averting the first birth from the means for averting later births. Age at marriage is used as a proxy for the beginning of sexual intercourse, with abstinence assumed to be the means of avoiding births before marriage and contraception the means after marriage.

Efforts to distinguish the motivations for later marriage from the motivations for contraceptive use find, however, that the social and economic factors involved are similar. This makes it difficult to sort out the extent to which social and economic factors influence age at marriage, in turn affecting fertility, from the direct influence of social and economic factors on fertility. In the long run, the distinction may not be important, however, if the end result is the same.

Finding socioeconomic points of leverage to influence age at marriage is complicated by the fact that age at marriage and first birth influence social and cultural events as well as the other way around. Events such as leaving school, marrying, being involved in the money economy, and having a child are all interrelated. The causal and temporal order of these events varies from one woman to the next. Some women leave school or jobs to marry, some leave school or jobs because they are pregnant, some postpone childbearing to attend school or to work, some consider themselves married only after they have a child, some marry in order to have a child, and so on. While it is relatively easy to identify associations among age at marriage, fertility, and socioeconomic factors, it can be difficult — often impossible — to determine what is cause and what is effect (314).

TECHNIQUES OF ANALYSIS

To quantify more precisely what has actually happened to fertility when marriage is delayed, a number of analytical techniques and indexes have been developed. Some of the demographic terms used are described in the box on p. M-110.

In this issue of **Population Reports**, which offers an overview of developing country data, one index is used throughout to measure age at marriage and two to measure fertility. Age at marriage is measured in this report by the percentage of women ever-married at age 15-19. These data can be gathered, with fair degrees of accuracy, from surveys and census questions which ask women what their age is and whether they are married. The proportion married in the 20-24 age group could also be used for comparisons, and this information is included for countries where few women marry before age 20. For most of the developing countries today, however, the 15-19 age group provides a more sensitive indication of levels and trends in age at marriage.

Fertility, in this issue of **Population Reports**, is measured by (1) the age-specific fertility rates, usually expressed as the

number of births per 1,000 women in a 5-year age group, and (2) the total fertility rate (TFR), which is the sum of age-specific fertility rates for women of reproductive age (see box for technical definition).

Comparisons in the report among countries and regions for which recent data are available are based on these three measures. The cross-sectional relationships, as depicted in Figures 4, 9, 11, and 12 and in columns 2, 6, and 8 of Tables 3, 6, 9, and 10, generally show a moderate association between later marriage on one hand and lower age-specific and total fertility rates on the other. The association is especially close in Asia.

Trends over time are analyzed using changes in the percentage of women ever-married at age 15-19, changes in the total fertility rates, and changes in the age-specific fertility rates of women at various ages. Trends among younger women are compared with the trends among older women to assess roughly what proportion of the change might be caused by increases in age of marriage, which are assumed to affect only women under 25, and what proportion might be caused by increases in use of deliberate fertility control methods, which are assumed to account for all of the decline in fertility among women over 35 and much of the decline among women between 25 and 34.

Another technique often used to measure the relative contributions of different factors to fertility declines is known as "decomposition technique." This method separates, or "decomposes," the causes of change in birth or fertility rates into various components, including changes in the number of women of reproductive age, changes in the proportion currently married (determined largely by age at marriage but also by widowhood and divorce), and changes in fertility within marriage determined largely by use of birth control measures (see Tables 4 and 7).

Decomposition analysis assumes that sexual activity is confined to marriage. If, in fact, the prevalence of sexual activity among the unmarried rises with age at marriage or if any unmarried women avoid giving birth by using contraception or abortion, the decomposition technique will overestimate the effect on fertility rates of changing age at marriage and underestimate the effect of contraception and abortion (299).

Assessing Socioeconomic Factors

Some of the social and economic factors that have been found to influence age at marriage in various countries are per capita income, degree of urbanization, number of people per unit of land in agricultural areas, changes in agricultural technology that influence the size of farms, educational opportunities for women, and labor force participation by women (67, 135, 166, 223, 227, 336). The age at marriage for men is affected by social or economic definitions of maturity — when men are thought capable of supporting a wife and children. Age at marriage for women is affected by three important factors which sociologist Ruth Dixon has described as (1) the *availability* of marriage partners, which is influenced by age and sex ratios in the marriage market; (2) the *feasibility* of marriage, which is influenced in large part by financial opportunities and constraints; and (3) the *desirability* of marriage in terms of how each partner sees the relative advantages and disadvantages of marriage compared with the available alternatives (67). The wider availability of nonmarital productive roles for women, which would certainly influence the desirability of marriage, can be expected to encourage some women to delay marriage. At the same time, if women were not expected to marry until the age at which men first marry, then their productive roles might be expected to change, becoming more like the productive roles of men.

In this issue of **Population Reports** the indexes used to measure these social and economic factors are the percentage of women of school age who are enrolled in primary or secondary schools, the percentage of women age 20-24 who are economically active outside their own homes, and the percentage of total population living in urban areas (see Tables 3, 6, 9, and 10).

No single measure or technique provides a complete picture of different fertility levels, marriage patterns, or socioeconomic change either among countries or over various time periods, and any set of measures has its difficulties. Nevertheless, cross-sectional and trend comparisons of the data available for many countries on age at marriage and fertility and on education, employment, and urbanization provide some clues to how much effect changing age at marriage has had on fertility in different regions of the world.

EXPERIENCE OF DEVELOPED COUNTRIES

One of the first to recognize age at marriage as an important factor in population growth and to propose economic and social policies based on that recognition was the 18th-century English clergyman Thomas Malthus. Observing from past experience that populations tend to increase by a geometric progression (that is, 2, 4, 8, 16, 32, etc.), whereas food production increases at an arithmetic rate (that is, 2, 4, 6, 8, 10, etc.), he declared that

> the perpetual tendency in the race of man to increase beyond the means of subsistence is one of the general laws of animated nature which we can have no reason to expect to change. (160)

Two elements could keep population growth in check, Malthus believed — "positive checks," which affect mortality, such as poverty, war, sickness, and famine; and "preventive checks," which affect fertility, such as delayed marriage and permanent celibacy (159). Contraception and abortion were also preventive checks, Malthus acknowledged, but he rejected them as vices. Moral restraint, on the other hand, demonstrated by sexual abstinence and delay of marriage, provided time for saving "and acquiring habits of sobriety, industry, and economy which would enable [a person] in a few years to enter into the matrimonial contract without fear of its consequences" (159).

Western Europe

These views, as Ansley Coale has pointed out, were a reasonable and empirical interpretation of the European demographic situation at the end of the 18th century (49). Both late marriage and a high proportion of unmarried people had long been characteristic of Western Europe. John Hajnal has demonstrated that during the 19th century and earlier nearly 70 percent of the women in Western Europe remained unmarried in their early 20s and about 15 percent never married, whereas in Eastern Europe less than 30 percent remained unmarried in their early 20s and less than 5 percent never married (92). In fact, a line could be drawn roughly from Leningrad to Trieste dividing European populations into a late marriage–lower fertility pattern to the west and an early marriage–higher fertility pattern to the east (49, 92). Ireland is frequently cited as the most extreme case of a society in which, even though methods

of voluntary contraception were almost totally absent, population declined sharply in the late 19th and early 20th centuries in part due to the high proportion of the population marrying late or not marrying at all (135).

Several reasons for this seemingly unique Western European pattern of late marriage have been suggested. The most widely advanced explanation is the "stem family" tradition going back at least to the 16th century (92). Essentially, in a stem family system primogeniture prevails. Only one son inherits the family land, and he must wait to marry until his father dies or is ready to make arrangements so the son can marry and support his own family on that land (87, 154). As life expectancy increases, marriage may be postponed still further. This pattern of stem family inheritance and small landholding combined with the economic pressures of a growing population, rather than any conscious motivation to control marital fertility, seems to have been responsible for the relatively high age at marriage in Western Europe.

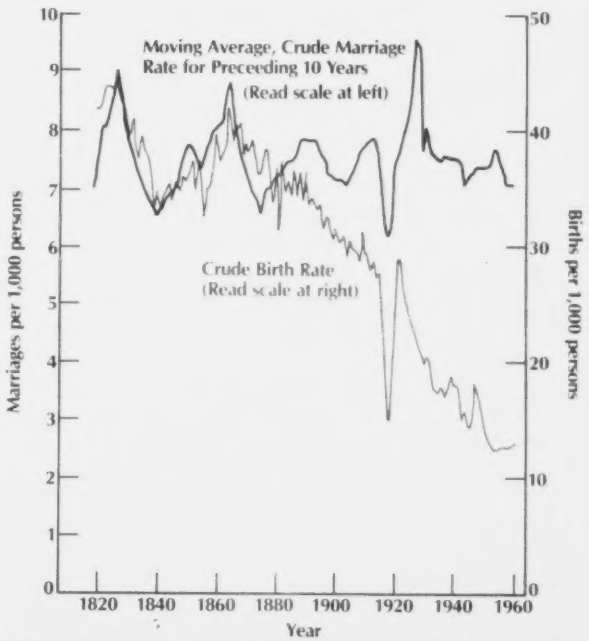
This situation changed in the last half of the 19th century. At that time a number of other factors, both indirect and direct, began to have an important effect both on age at marriage and on marital fertility. The factors indirectly affecting fertility were: new farm technology, which reduced the value of children as farm laborers; urbanization, which hastened the spread of new ideas and practices; industrialization, which produced jobs outside the home for women as well as men; opportunities for more education for both sexes, which increased both the age at which those seeking education could marry and the cost of children who would later have to be educated; and, finally, increased migration, which created imbalances in the ratio of marriageable men to marriageable women in an area.

Even more important, however, the late 19th century saw a rapid diffusion through much of Western Europe of contraceptive information and products (100). The products included various spermicides and douches and, somewhat later, caps, diaphragms, and mass-produced condoms (196). As Figure 3 shows for the province of Tuscany, marriage rates and birthrates, which had been closely linked to one another for the first three-quarters of the century, began to diverge in about 1870. Birthrates dropped rapidly while marriage rates remained the same or even increased. What had been once a clear and close relationship between marriage and childbearing was altered by the introduction and publicizing of more effective methods of contraception. This, more than any other single factor of socioeconomic change, is now thought to be the major reason for the decline in fertility levels in Europe (323).

In fact, the proportion married has increased since the mid-19th century in much of Europe and the age at which marriage usually takes place has declined for both men and women, while at the same time marital fertility rates have dropped to some of the lowest levels ever recorded. During the same period, illegitimate fertility rates have dropped precipitously along with marital fertility rates, declining in most countries by 50 percent or more (219, 299). In other words, "the spread of the knowledge and skills to avoid unwanted births enabled both married and unmarried couples to reduce their fertility simultaneously" (323).

Nevertheless, while age at marriage and the subsequent tempo of childbearing are not as closely linked in the developed countries as they were in the past, age at marriage still remains an important determinant of completed fertility for any individual woman. In the United States, for example, where 62

Figure 3. Marriage Rates and Birth Rates in Tuscany, 1819-1959



In the province of Tuscany, before about 1870 the crude birth rate and the marriage rate (the average number of marriages per 1,000 persons in the preceding 10 years) were directly and closely related. Then, as contraceptive practice spread, the birthrate dropped, while the marriage rate remained near the previous level. The pattern is typical of many areas of Western Europe.

Source: Coale (47)

percent of ever-married women use some method of fertility control (317). National Fertility Survey data show that both wanted and unwanted fertility are higher among women who marry at an earlier age (292). This relationship between high fertility and early age at marriage diminishes but does not disappear even when education, husband's occupation, farm background, and religion are taken into account (23, 24). In Great Britain, in the United States, and in Australia, those who marry before age 20 have, on the average, one child more than those who marry at ages after age 25 (25, 59, 292). Analyzing why age at marriage should continue to be at all important in determining fertility when means of contraception are readily at hand, Lincoln Day suggests some 20 different factors, including individual physiology, fecundability, self-selection (which includes education and employment possibilities), ability and willingness to control fertility, desired number of children, and demographic experience (60).

Some of the obvious influences on age at marriage, such as child marriage, education, and job opportunities, may be susceptible to change by deliberate government policies, but others may be deeply rooted in individual and cultural differences that are not easily altered by laws or government policies. Thus, within a society, age at marriage may continue to be an important predictor of individual fertility no matter what changes are observed in aggregate fertility rates for the whole society.

ASIA

In Asian countries where women marry late, total fertility is low; where they marry early, it is relatively high. The trends that have brought this relationship about, however, have not always occurred simultaneously. In some countries substantial rises in age at marriage took place in the first half of the 20th century apparently without marked drops in total fertility, which have begun since 1950. Through the early 1960s, lower fertility among young women, associated with later marriage, contributed substantially to total fertility declines. More recently, as family planning programs have grown and fertility has dropped more rapidly, lower fertility among older women, most of whom are married, has accounted for more — and usually most — of the total fertility decline.

Prevalence of Early Marriage

A comparison between current age at marriage and current fertility rates shows that the countries of Asia range from early marriage–high fertility to late marriage–low fertility patterns (see Figure 4). Looking at Asia as a whole, the mean total fertility rate for countries where few women marry before age 20 is near three, while, for countries where many women marry before age 20, it is slightly over five.

Geographic patterns are apparent. In the Indian subcontinent, except for Sri Lanka, early marriage is the rule and the total fertility rate is high; in Southeast Asia (Burma, Indonesia, Malaysia, the Philippines, and Thailand) except Singapore, early marriage is moderately common and the total fertility rate is moderate, and in East Asia (Japan, South Korea, Hong Kong and Taiwan), early marriage is the exception and the total fertility rate is low (see Table 3 and Figure 4). In China, although data are few and controversial, early marriage seems to be extremely rare and birthrates are probably under 20 per 1,000 (35).

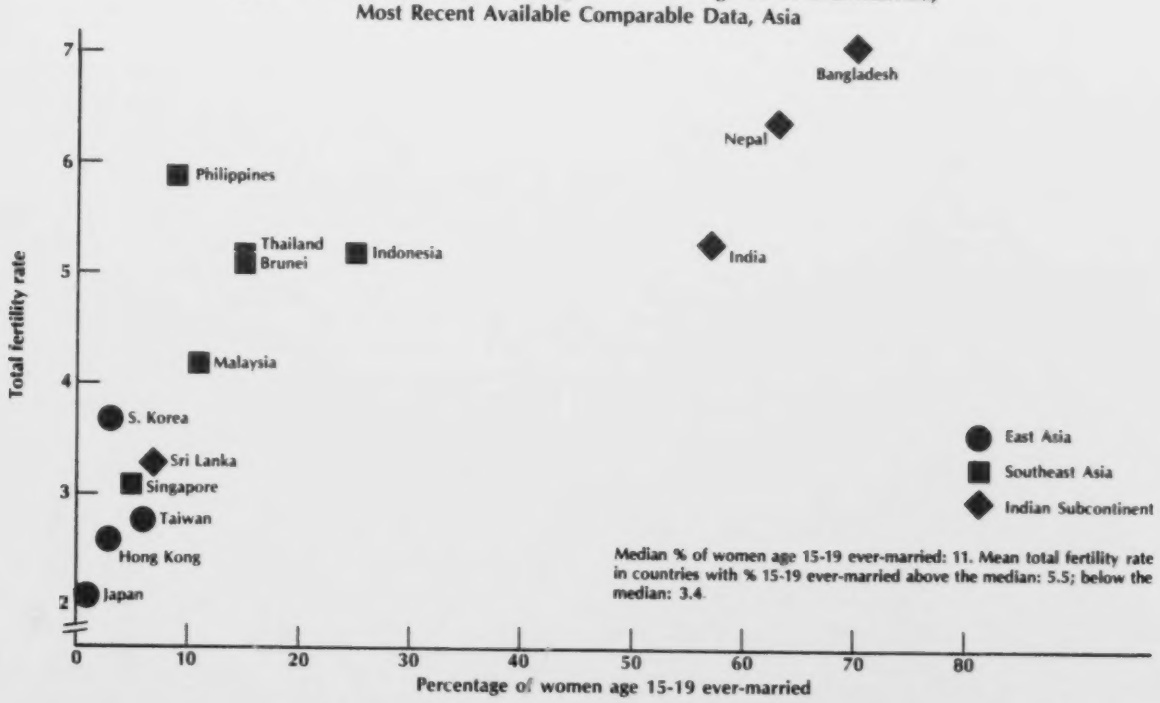
Trends in Age at Marriage and Fertility

An examination of trends in Asia reveals that fertility can remain high even when women are marrying later. Rising age at marriage has been documented since the early 20th century in Sri Lanka, Japan, South Korea, Taiwan, and the Philippines. These increases took place well before substantial declines in fertility. In fact, fertility rates in most of these countries were still high — at least five — in the early 1960s (see Figures 5-8). In Japan, for example, by 1920 only about 18 percent of women 15-19 were married, while the total fertility rate was still over five (241). In Korea, by 1955 only about 15 percent of women 15-19 were married, yet the total fertility rate was between 5.6 and 6.3 (144).

To estimate how much of the decline in total fertility is caused by a rising age at marriage and how much by changes in marital fertility, "decomposition" techniques can be used. Although these studies assume no sexual activity outside of marriage and therefore underestimate the impact of contraceptive use and abortion by the unmarried, they do provide an estimate of the upper limit of the effect of changing age at marriage on fertility (see Table 3).

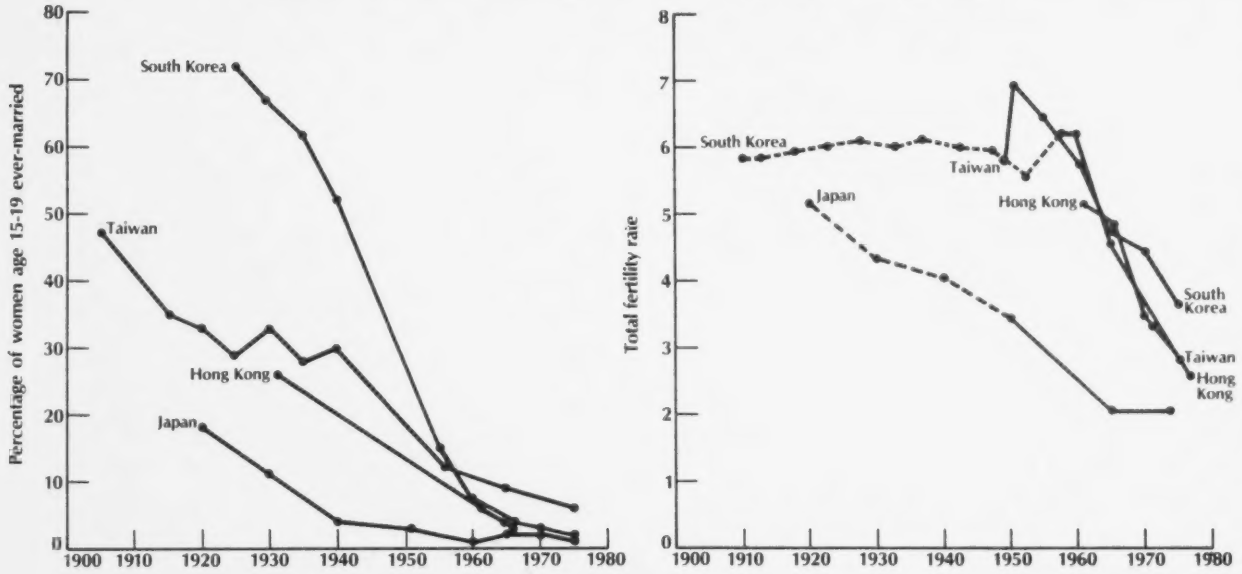
Using decomposition techniques, Lee-Jay Cho and Robert Retherford examined trends in South Korea, Taiwan, West

Figure 4. Fertility Rate by Percentage of Women Age 15-19 Ever-Married, Most Recent Available Comparable Data, Asia



This figure and Figures 9, 11, and 12 illustrate the relationship between age at marriage and total fertility in developing regions. Countries located toward the lower left portion of the graph have both low total fertility rates and low percentages of women 15-19 ever-married. Countries located toward the upper right have both high total fertility and high percentages married. The closer the country symbols come to forming a diagonal line, the closer the relationship of total fertility and age at marriage in the region. In Asia, with a wide range of fertility rates and usual ages at marriage, the relationship is closer than in any other developing region.

Figure 5. Trends in Early Marriage and Total Fertility, East Asia, 1900-1976

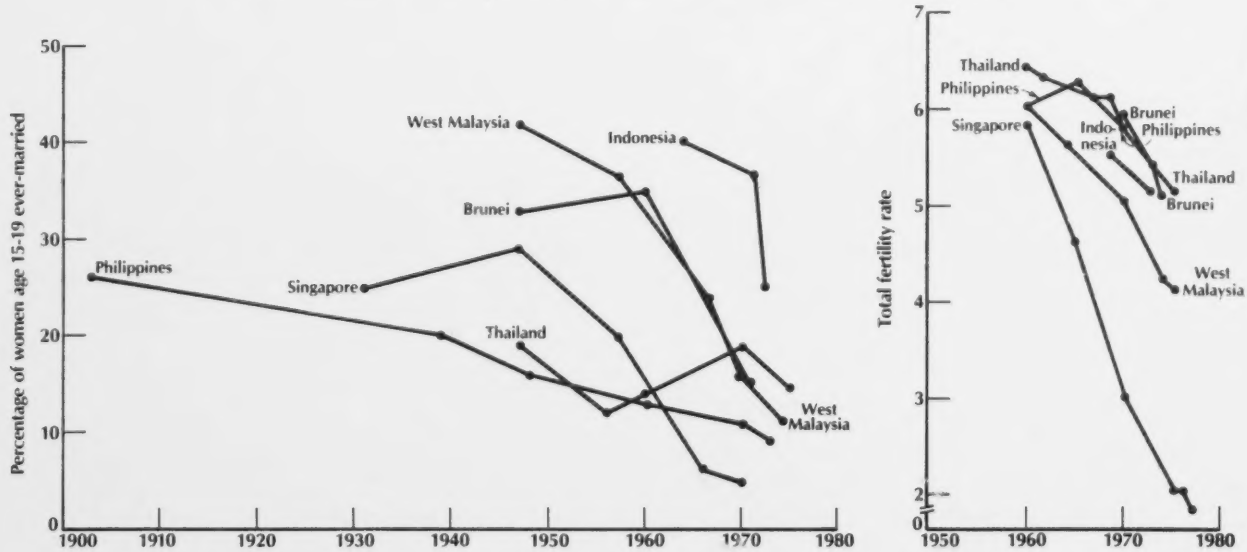


This figure and Figures 6, 7, and 10 show trends over time in the proportion of women age 15-19 ever-married on the lefthand graph and trends in the total fertility rate on the righthand graph (green lines). In East Asia, both the proportion married at 15-19 and the total fertility rate have reached low levels in the countries shown, but, where data are available, declines in proportion married preceded declines in fertility by several decades.

Note: Total fertility rates for Japan, 1920–1950, and Korea, 1910–1955/60, estimated from crude birth rates (source: Japan, Taeuber (241); Korea, Kwon et al. (144) on the basis of total fertility rates in countries with similar crude birth rates.

Source: Blayo (18); Kwon et al. (144); Taeuber (241); see also Table A3 in supplement, available on request.

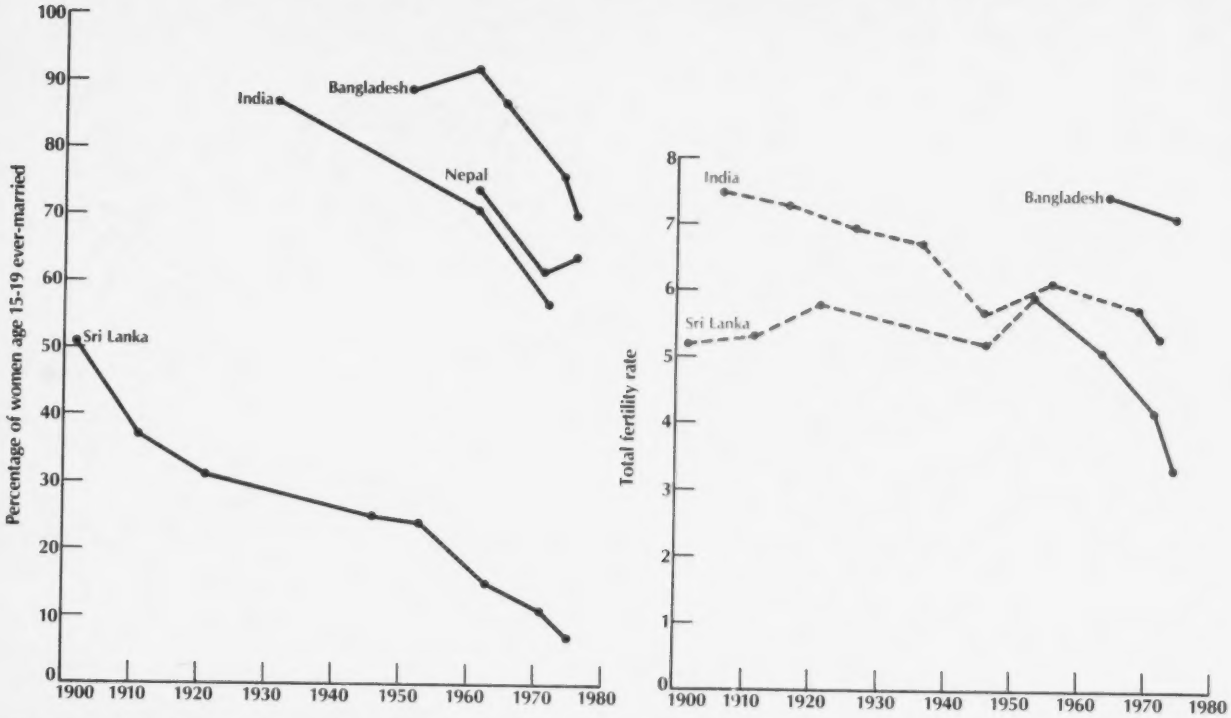
Figure 6. Trends in Early Marriage and Total Fertility, Southeast Asia, 1903-1979



In all Southeast Asian countries with available data, total fertility has declined, if to varying points (right). These declines have accompanied a decrease in the proportion of women 15-19 ever married in Brunei, Singapore, and West Malaysia (left). By contrast, in the Philippines and Thailand, the proportion married at age 15-19 has been low for some time, but fertility rates were still high in 1960.

Source: See Table A3 in supplement, available on request.

Figure 7. Trends in Early Marriage and Total Fertility, Indian Subcontinent, 1911-1975



The proportion of women age 15-19 ever-married (left) remains quite high in India and Bangladesh despite declines that have been especially marked recently. In contrast, the proportion married in Sri Lanka has been low for some time and continues to drop. Total fertility rates (right) correspond to proportion married, but the drop in fertility in Sri Lanka began only in the early 1950s, when the proportion married was already moderately low.

Note: Total fertility rates for Sri Lanka, 1901-1946, estimated from crude birth rates (source: Sri Lanka (228) on the basis of total fertility rates in countries with similar crude birth rates.

Source: See Table A3 in supplement, available on request.

Malaysia, Japan, and the Philippines during the 1960s. In Korea the crude birthrate fell from 43.3 to 29.0, with 35 percent of the decline attributed to changes in the marital structure, including age at marriage, and 65 percent attributed to changes in marital fertility and in the age-sex structure of the population. In Taiwan, the crude birthrate fell from 38.7 to 27.1, with 23 percent of the decline attributed to changes in marital structure. In West Malaysia the crude birthrate fell from 42.9 to 34.6, with 67 percent of the change attributed to the change in marital structure. In Japan and the Philippines during the 1960s there was little change in crude birthrates (43).

"Decomposing" the decline in the crude birthrate in Java and Bali in Indonesia from 38 in 1967-1971 to 34 in 1976, Jeanne Sinquefield and Bambang Sungkono reported the crude birthrate that would have resulted in 1976, first, if marriage patterns had changed but marital fertility had remained what it was in 1967-1971 and, second, if marital fertility had changed but marriage patterns remained what they were in 1971. (The effects of changes in age-sex structure and of interaction among factors are not reported.) In Java and Bali combined, the birthrate would have been 37 if only marriage patterns had changed, 36 if only marital fertility had changed; in actuality, with both changing, it was 34 (221).

Using data for Java and Bali from the same source, Terence and Valerie Hull and Masri Singarimbun estimated that 25 percent of the decline in the total fertility rate from 5.3 in 1967-1971 to 4.5 in 1976 was due to changing marriage patterns. Most of the remainder they attributed to declining fertility within marriage (104).

An alternative way to gauge roughly the contribution of postponed marriage to declining fertility rates is to compare the changes in fertility rates among younger women with the changes in fertility rates among older women. Presumably most of the declines in fertility among younger women are due to later marriage and most of the declines among older women are due to use of contraception, although some unmeasured proportion of the reduction in early births may also be due to contraceptive use and abortion and some of the fertility decline among older women could be due to separation of spouses through migration and to greater marital instability. The results of this type of analysis often contrast sharply with those of decomposition analyses using the same data, as the table below illustrates. The percentage of total fertility decline attributed to rising age at marriage as estimated by decomposition analysis appears in column A; the percentage attributable to women 15-24, in column B.

	(A)	(B)
Korea, Rep. of	35	26
Malaysia, West	67	46
Taiwan	23	7

Source: based on data from Cho & Retherford (43)

Decomposition analyses tend to attribute more of the fertility decline to changing marriage patterns than can be explained by the changing fertility of women 15-24.

Table 3. Marriage, Fertility, and Socioeconomic Factors, Most Recent Available Data, Asia

Region and Country	Year	% Females Age 15-19 Ever-Married	Rank Order	Source Code[a]	Year	ASFR Age 15-19	Rank Order	TFR	Rank Order	Source Code[a]	Year	% Females in School at 1st & 2nd Levels[b]	Rank Order	Year	% Females Age 20-24 Economically Active[c]	Rank Order	% Urban[d]	Rank Order
EAST ASIA																		
Japan	1975	1	1	M25	1974	5	1	2.1	1	F22	1975	97	1	1975	67	2	72	2
Hong Kong	1971	3	2	M13	1976	18	3	2.6	2	F12	1975	79	3	1976	74	1	100	1
Korea, Rep. of	1974	3	2	M28	1975	8	2	3.7	4	F25	1976	80	2	1970	44	4	41	4
Taiwan	1975	6	4	M67	1975	37	4	2.8	3	F51		NA		1975	55	3	61	3
Unweighted mean		3				17		2.8				85			60		69	
Weighted mean[e]		2				9		2.5				92			61		65	
SOUTHEAST ASIA																		
Singapore	1970	5	1	M47	1977	14	1	1.9	1	F45	1976	79	2	1977	72	1	63[f]	1
Philippines	1973	9	2	M42	1968-72	56	3	5.9	6	F36	1975	86	1	1970	34	5	32	2
Malaysia, West	1974	11	3	M33	1975	47	2	4.2	2	F32	1975	65	3	1970	42	4	29	3
Brunei	1971	15	4	M8	1974	60	4	5.1	3	F6		NA		1971	30	7	NA	
Thailand	1975	15	4	M67E	1974-75	84	5	5.2	4	F58	1976	58	4	1976	47	2	13	6
Burma	1973	22	6	M9		NA		NA			1974	49	5	1975	47[g]	2	19	4
Indonesia	1973	25	7	M19	1971-75	127	6	5.2	4	F16	1976	48	6	1971	33	6	17	5
Unweighted mean		15				65		4.8				64			44		29	
Weighted mean[e]		20				101		5.2				57			38		20	
INDIAN SUBCONTINENT																		
Sri Lanka	1975	7	1	M55	1974	31	1	3.3	1	F49	1976	64	1	1971	43	1	22	1
India	1971-72	57	2	M16	1971-72	89	2	5.3	2	F14	1976	40	2	1971	18	3	20	2
Nepal	1976	63	3	M36	1976	141	3	6.4	3	F33	1975	8	4	1971	39	2	5	4
Bangladesh	1976	70	4	M5	1974	198	4	7.1	4	F2	1976	37	3	1974	3	4	9	3
Unweighted mean		49				115		5.5				37			26		14	
Weighted mean[e]		58				101		5.5				40			17		19	
ALL COUNTRIES																		
Unweighted mean		21				66		4.4				61			53		36	
Weighted mean[e]		41				87		5.0				51			28		26	

NA = not available
ASFR = age-specific fertility rate
TFR = total fertility rate

[a]Codes refer to source information in Table A3 of supplement, available on request.
[b]Source: UNESCO (267), Table 3.2. The gross school enrollment ratio at the first and second levels is the total enrollment of pupils of all ages at those two levels divided by the population of official school ages for those two levels. For countries with nearly universal education of the school-age population at the first level, the gross enrollment ratio will exceed 100 if many pupils are older than the official school ages. Second-level schooling includes general education, teacher training, and other secondary-level vocational-technical training. All ratios are expressed as percentages.

[c]Source: International Labour Office (121) Table 1A or (122) Table 1 unless otherwise noted. Economically active population defined as employers, the self-employed, employees, unpaid family workers, members of producers' cooperatives, members of the armed forces, and unemployed persons with previous job experience.
[d]Source: 1970 data from World Bank (294) p. 510-513. Percentage of the population living in urban areas, generally defined as cities and towns; national definitions vary.
[e]Mean weighted by 1975 population as reported in US Bureau of the Census (280)
[f]As of 1960
[g]Source: International Labour Office (122) Special Table. ILO projections for midyear 1975.

Table 4. Selected Studies of the Components of Fertility Change in Asian Countries 1930-1975, Using Decomposition* Techniques

Country and Studied	Author, Date, Reference No.	Observations and Conclusions
Fiji 1965/66-1974/75	Mauldin et al. (166)	CBR declined by 22%, from 35.7 to 28.0. If 1965-1966 age structure and marital fertility had prevailed in 1974-1975, the changes in percentage married would have lowered the CBR by 2.2 points and accounted for 29% of the overall decline. However, changes in the age structure, given 1965-1966 marital fertility and percentage married, would have raised the CBR by 1.6 points. Of the overall decline in CBR, changes in age-sex structure and percentage married accounted for 7%; change in marital fertility, for 93%.
Hong Kong 1961-71	Mauldin et al. 1978 (166)	CBR declined by 45%, from 35.5 to 19.7. Of this decline, change in percentage married accounts for 24%; change in marital fertility, for 50%; and change in age structure, for 26%.
Indonesia (Java-Bali) 1967/71-1976	Hull et al. 1977 (104)	TFR declined by 15%, from 5.3 to 4.5. Of this decline, change in percentage married accounts for 25.2%; change in marital fertility, for 74.8%.
Japan 1960-1970	Cho & Retherford 1973 (43)	CBR increased by 9.3%, from 17.2 to 18.8. Of the increase, change in percentage married accounts for 12.9%; change in marital fertility, for 43%; and change in age-sex structure, for 44%.
Korea, Rep. of 1960-1970	Cho & Retherford 1973 (43)	CBR declined by 33%, from 43.3 to 29.0. Of this decline, change in percentage married age 15-24 accounts for 35%; change in marital fertility, for 59.5%; change in age-sex structure for 5.6%.
Korea, Rep. of 1966-1970	Retherford & Ogawa 1978 (339)	Modified decomposition technique compares effects of education and rural-urban residence as well as nuptiality on TFR. TFR declined from 4.837 to 4.257. Of this decline, changes in residence, education, and marital status account for 25%; changes in age-specific birthrates account for 75%.
Korea, Rep. of 1930-1975	Coale et al. 1979 (312)	Decomposition techniques modified by use of indexes for overall fertility, for marital fertility, and for percent currently married. From 1930 to 1960, the total fertility rate declined slightly from 6.09 to 5.98. Measured by indices, a 21% decrease in percentage married offset a 24% increase in marital fertility. From 1960 to 1975 the total fertility rate declined from 5.98 to 3.140. Of this decline, change in marital fertility accounted for 74%.
Malaysia, West 1960-1969	Cho & Retherford 1973 (43)	CBR declined by 19%, from 42.9 to 34.6. Of this decline, change in percentage married accounts for 67%; change in marital fertility, for 28%; and change in age structure, for 5%. Change in percentage married accounts for most of decline in CBR among Malays and Indians. Among Chinese, changes in age structure offset the decline in CBR caused by changes in percentage married and marital fertility.
Philippines 1960-1968	Cho & Retherford 1973 (43)	CBR declined by 4.4%, from 40.4 to 38.6. If 1960 age structure and marital fertility had prevailed in 1968, the change in percentage married would have accounted for 102% of the change in CBR. However, change in age structure, given 1960 percentage married and marital fertility, would have increased the CBR by 1.2 points. Change in marital fertility, given 1960 age structure and percentage married, accounts for 65% of the decline in CBR or a decrease of 1.2 points.
Sri Lanka 1963-1971	Fernando 1976 (79)	CBR declined by 11%, from 34.4 to 30.1. If 1963 age structure and marital fertility had prevailed in 1971, the change in percent married would have accounted for 100% of the decline in CBR. However, changes in age structure, given 1963 percentage married and marital fertility, would have increased the CBR by 1.6 points. Of the overall decline in CBR, changes in age structure and percentage married account for 63%; change in marital fertility, for 37%.
Taiwan 1960-1970	Cho & Retherford 1973 (43)	CBR declined by 33%, from 38.7 to 27.1. Of this decline, change in percentage married accounts for 23%; change in marital fertility, especially in older age groups, accounts for 63%; and change in age structure, for 13%.
Taiwan 1961-1970	Freedman et al. 1973 (319)	CBR declined by 28%, from 37.7 to 27.2. Change in percentage married accounts for 21% of this decline; change in marital fertility, 61%; and change in age structure, 12%. Interaction among all factors accounts for 6% of the decline.
Taiwan 1961-1976	Sun et al. 1978 (237)	CBR declined by 31%, from 37.7 to 25.9. If 1961 age structure and marital fertility had prevailed in 1976, the change in percentage married would have lowered the CBR to 33. Change in marital fertility, given 1961 age structure and percentage married, would have lowered the CBR to 28.7 and accounted for 76% of the decline, while changes in percentage married and age-sex structure together would have accounted for 7% of the decline. Interaction among all factors accounts for 17% of decline.
Thailand 1964/65-1974/75	Mauldin et al. (166)	CBR declined by 12%, from 42.2 to 37.0. If 1964-1965 age structure and percentage married had prevailed in 1974-1975, the changes in marital fertility would have lowered the CBR by 5.4 points and accounted for 103% of the overall decline. Changes in age structure, given 1964-1965 percentage married and marital fertility, would have produced an increase in the CBR of 1.2 points.

CBR = crude birthrate

*Decomposition techniques break down, or "decompose," total recorded changes in fertility into two or three components: (1) changes in the percent married, due primarily to changes in age of marriage (widowhood, divorce, and separation also have some effect); (2) changes in marital fertility; (3) changes in age-sex structure. The contribution of each component to the total change is estimated by determining the effect that the change in one factor would have had if the other factors had not changed during the period under consideration. These techniques always assume no fertility outside of marriage and sometimes do not allow for any interaction among variables. For example, if changes in age at marriage produce higher fertility in later years, this will be attributed not to previous changes in age at marriage, but to marital fertility.

Table 5. Contributions to Declines in Fertility by Women of Various Age Groups in Selected Countries of Asia

Country	Source Code	Years	Total Fertility Rates (TFRs)	Decline in TFR	% of Decline Attributable to Women Age				
					15-19	20-24	25-34	35-49	All ages
EAST ASIA									
Hong Kong	F8, F9	1965-1970	4.9–3.5	1.4	8	34	44	14	100
	F9, F11	1970-1975	3.5–2.8	.7	0	22	49	28	100
	F8, F11	1965-1978	4.9–2.8	2.1	5	30	46	19	100
Korea, Rep. of	F23, F23B	1960/61-1970	6.3–4.5	1.8	6	18	19	56	100
	F23B, F25	1970-1975	4.5–3.7	.8	1	4	72	23	100
	F23, F25	1960/61-1975	6.3–3.7	2.0	*	17	56	28	100
Taiwan	F50, F51	1965-1975	4.8–2.8	2.0	*	17	56	28	100
SOUTHEAST ASIA									
Indonesia	F15, F16	1967/70-1971/75	5.6–5.2	.4	26	4	32	38	100
Java-Bali	F19, F20A	1966/70-1976	5.4– 4.5†	.9	18	*	43	40	100
	F17, F20A	1967/70-1976	5.3– 4.5†	.8	17	0	46	37	100
Malaysia, West	F26, F27	1960-1965	6.1–5.6	.5	40	14	32	14	100
	F27, F28	1965-1970	5.6–5.1	.5	19	23	36	22	100
	F28, F32	1970-1975	5.1–4.2	.9	6	28	46	20	100
	F26, F32	1960-1975	6.1–4.2	1.9	19	23	39	19	100
Philippines	F35, F36	1963/67-1968/72	6.3–5.9	.4	22	33	25	20	100
Singapore	F41, F42	1965-1970	4.7–3.1	1.6	3	27	40	30	100
	F42, F45	1970-1977	3.1–1.9	1.2	6	17	45	32	100
	F41, F45	1965-1977	4.7–1.9	2.8	4	23	42	30	100
Thailand	F54, F57	1965/69-1970/74	6.2–4.9	1.3	0	11	54	36	100
INDIAN SUBCONTINENT									
India	F13, F14	1968/69-1971/72	5.7–5.3	.4	20	*	28	55	100
Sri Lanka	F46, F47	1953-1963	5.9–5.1	.8	15	35	47	3	100
	F47, F48	1963-1971	5.1–4.2	.9	6	30	52	13	100
	F48, F49	1971-1974	4.2–3.3	.9	7	18	66	9	100
	F46, F49	1953-1974	5.9–3.3	2.6	9	28	55	8	100

Note: Table includes only countries with available data with declines in total fertility rate exceeding 0.3. Of 12 countries with reliable data, 10 experienced decreases greater than 0.3, and 2 experienced decreases of less than 0.3 or no change. For age-specific fertility rates in these countries, see Table A5, p. M-153.

*Fertility in this age group increased; see Table A5, p. M-153.
†Alternative estimates presented.

Fewer early births, whether achieved by late marriage or by contraceptive use, have had impacts of differing importance on declines in total fertility. They have played important roles in certain countries in certain time periods. Close to 40 percent of the overall decline in fertility rates occurred among women 15-24 in West Malaysia from 1960 to 1970, in Sri Lanka from 1953 to 1971, and in Hong Kong from 1965 to 1970 (see Table 4). In these countries the decline attributable to women age 35 or older during those periods was much lower. Declining fertility among young women also accounted for substantial proportions of the total fertility decline in Hong Kong from 1970 to 1975, in Singapore from 1965 to 1975, and in Indonesia from 1967 to 1975. Fertility among older women in these countries also fell substantially in these periods. By contrast, declines in fertility rates among younger women were of little importance in reducing overall fertility in Thailand from 1965 to 1974, in Taiwan from 1965 to 1975, and in South Korea from 1970 to 1975.

In East Asia, later marriage and fewer early births were most important in the initial years of the transition to low fertility, but less important in later years when more of the total fertility decline was attributable to lower fertility among older women.

In Asian countries where total fertility has dropped appreciably, the fertility rate of each 5-year age group, as a proportion of the total fertility rate, has remained about the same. In other words, the *rates* of fertility decline have been roughly equal in all age groups, even though the absolute declines among older women have been larger. If anything, the relative contribution of women under age 25 to the total fertility rate has increased somewhat in a majority of these countries from the 1960s to the 1970s. That is, fertility has declined at a slightly slower rate among young women than among older women. This is the case in India, Indonesia, Japan, South Korea, Singapore, Taiwan, and Thailand. By contrast, in Bangladesh, Hong Kong, Malaysia, the Philippines, and Sri Lanka fertility declined somewhat faster among younger women than among older women. (See Table A5, p. M-153–154.)

Influences on Age at Marriage

In Asia, as elsewhere in the world, trends toward later marriage and lower fertility have occurred in a context of urbanization and economic and social development. The social conditions that have provided the incentive to control fertility have also provided the incentive to delay marriage.

The association with age at marriage of urbanization, female school enrollment, and female economic activity at age 20-24 is moderately close. In the four countries of Asia with high rates (that is, above the regional medians) for all three

socioeconomic factors — Japan, Hong Kong, Singapore, and South Korea — 3 percent of women age 15-19 are or have been married. In the four countries with low rates for all three factors — Bangladesh, Indonesia, India, and Nepal — 57 percent are married. In the four countries where some socioeconomic rates are high and some low — West Malaysia, the Philippines, Sri Lanka, and Thailand — 11 percent are married. The three socioeconomic factors are interrelated to such a degree that it is not possible to single out one as more important than others in its relationship with age at marriage.

These three socioeconomic factors and age at marriage are, individually and as a group, related to total fertility rates. In the four Asian countries with high socioeconomic rates and high age at marriage — Japan, Hong Kong, Singapore, and South Korea — the TFR is 2.6. In the four countries with low socioeconomic rates and low age at marriage — Indonesia, India, Bangladesh, and Nepal — the TFR is 6.0. The four countries where some rates are high and some low have intermediate fertility rates, averaging 4.3.

This analysis suggests that in Asia socioeconomic factors affecting women — urbanization, school enrollment, and economic activity — and age at marriage and total fertility are highly interrelated. This does not mean, however, that all countries have arrived at their current marriage and fertility patterns in the same way. A closer look at trends in Korea and Sri Lanka reveals the different paths the two Asian countries have traveled to arrive at both a higher age at marriage and lower fertility.

Korea

The Republic of Korea presents one of the most striking and best documented examples in all the developing world of a country where age at marriage has risen sharply and fertility has fallen sharply. Like 19th-century Ireland, Korea is a country that was deeply affected by a foreign military occupation and by extensive out-migration of young men. Unlike Ireland, however, Korea has implemented a successful family planning program, abortion is readily available, and marriage is almost universal. In Korea the impact of rising age at marriage has been reinforced, especially recently, by the effect of readily accessible methods of birth control.

Separating, or decomposing, the sharp decline in the crude birthrate from 43.3 to 29.0 between 1960 and 1970, Cho and Retherford attribute almost 35 percent of the decline to changes in the proportion of women married. They attribute almost 60 percent to changes in marital fertility. Changes in marital fertility occurred primarily among women age 30-39, while changes in fertility due to higher age at marriage occurred primarily in women age 20-25 (43).

Ansley Coale and colleagues reached similar conclusions in their decomposition of the change in the total fertility rate. Between 1960 and 1975, by their calculations, 26 percent of the nearly 50 percent drop in fertility was due to changing marital structure and 74 percent to changing marital fertility. Between 1930 and 1960, however, age at marriage rose and marital fertility increased. The two changes counteracted each other, and the total fertility rate in 1960, despite fluctuations caused by World War II and the Korean War, was virtually the same as in 1930 — about six (312). In other words, in the absence of family planning programs or available contraceptive services, increases in age at marriage did not reduce total fertility but did prevent it from rising.

Changes in age-specific fertility rates between 1960 and 1975 suggest the declining importance of age at marriage to fertility. In the first 10 years of this period, 24 percent of the decline in the total fertility rate occurred among women age 15-24, 19 percent was attributable to women age 25-34, and about 56 percent to women over age 34. More recently, as the national family planning program has grown and the age at marriage has risen more slowly as it reached higher levels, contributions to the fertility decline are beginning to come much more from women 25-34. Of the decline between 1970-1971 and 1975 only about 5 percent was attributable to women age 15-24, 72 percent to women age 25-34, and 23 percent to women over age 34 (see Table 5).

Reasons for Later Marriage

The rise in age at marriage in Korea can be traced to the beginning of the century. Traditionally, marriage of women was early and universal (144, 263). During the Japanese occupation (1910 to 1945), mean age at marriage for women rose slightly, from 16.6 in 1925 to 17.8 in 1940. After 1940 age at marriage increased more rapidly, from 17.8 in 1940 to 23.3 in 1970. By 1970, about 97 percent of women age 15-19 were single and at age 20-24 some 57 percent remained single. More than 99 percent marry eventually, however (144).

What were the factors responsible for this rising age at marriage? First, marriageable young men migrated both internally, from rural to urban areas, and to Japan and Manchuria (144). Later, World War II and the Korean War disrupted Korean society (144, 263). All able-bodied young men were conscripted during the Korean War, and mandatory 3-year military service in South Korea since then has continued to discourage early marriage.

Changes in education and employment also encouraged later marriage. Classical Confucian education was limited to upper-class men, but educational reforms in the late 19th century and the limited public education introduced by the Japanese spread primary education to some men of all social classes. After World War II, a new system based on that of the United States extended education to many more men and, for the first time, to women. Increases in education and in mean age at marriage of women almost always go hand in hand. In 1966 Korean women with no education married at an average age of 18.4; those with elementary education married at age 20.5; those with secondary education, at 22.4; and those attending college or university, at 24.4 (147).

At the same time, manufacturing jobs began to become available in the cities. The proportion of the population working in agriculture dropped from about 80 percent in 1930 to about 50 percent in 1970. Manufacturing provided some jobs for young, unmarried women (144, 263). In Korean society, for women nonagricultural work has not been considered compatible with marriage. In 1966, 32 percent of single women in urban areas were employed outside the family compared with only 8 percent of married women (147). This pattern is borne out in age-specific economic activity rates for women. In urban areas, nearly 40 percent of women 15-24 work, but only 18 percent do at ages 25-34 (263). The unmarried woman's income often goes to her family, so her parents encourage her to marry late in order that the family can continue to receive her support. The unmarried man must work long enough to be able to support his wife and children once he marries. Thus both women and men have economic reasons to marry late.

LATE MARRIAGE AND BIRTH CONTROL REDUCE CHINA'S BIRTHRATE

The People's Republic of China has probably put more emphasis on raising the age at marriage than any other government in the world — and with considerable success. For more than two decades Chinese policy has been to recommend that women delay marriage until their early to middle 20s and men, until their middle to late 20s. These norms have gradually been accepted, with only slight differences between urban and rural areas, and mean age at marriage in the People's Republic of China now appears to be above the recommended minimums. In 1976 and 1977, from 94 to 97 percent of men and women married at or after the recommended minimum age in Nanning (Guangsi province), in Xiam (Shensi province), and in Changsha (Hunan province). The lowest rate of compliance reported was 75 percent, in Guangdong province; this is probably typical of most of China (37, 38).

The current late age at marriage represents a dramatic and radical change from the traditions of prerevolutionary China, which included child marriages arranged by families. One of the first actions taken by the Chinese communist government upon coming to power was to amend the marriage laws and promulgate equal rights for men and women. The Marriage Law of 1950 raised the minimum legal age at marriage to 18 for women and 20 for men. The purpose of the law was set forth in the first article:

> The feudal marriage system based on arbitrary and compulsory arrangements and the supremacy of man over woman, and in disregard of the interests of the children, is abolished.
>
> The New-Democratic marriage system, which is based on the free choice of partners, on monogamy, on equal rights for both sexes, and on the protection of the lawful interests of women and children, is put into effect. (39)

At first, the rationale for later marriage was entirely that the energies of young people should be channeled into work. The *Barefoot Doctor's Manual*, the handbook of China's rural paramedical workers, comments:

> If the young people talk about love, marriage and having children at too early an age, their energies will be dissipated, affecting their work and their study. Furthermore, from the standpoint of physical development, most young people do not attain all-around maturity until after 25 years of age. Premature marriage and procreation are not beneficial for the young and succeeding generations. (281)

Only more recently has later marriage been recognized as a means of slowing population growth (37, 247).

In 1957, after extensive public debate, Chinese leaders decided not to amend the law to increase further the legal minimum age at marriage. They reached this decision partly because they recognized the limits of legal coercion and partly because they felt that the desired delays in marriage were contingent on implementing measures that would make marriage less essential to the welfare of individual women and men (247, 248).

So far the Chinese have been willing to accept what to Western eyes seems a puritanical, almost Malthusian, model of youthful industriousness, delayed marriage, and sexual abstinence before marriage comparable to that of the Irish in the last century (49). Premarital sex is reportedly uncommon; children born out of wedlock are virtually unheard of; and abortions for unmarried women, although available and encouraged, are rare (177, 220). In striking contrast with much of the rest of the world, in China there now seems to be little social pressure on men or women to prove themselves by being sexually active or highly fertile.

Because age-specific fertility rates and marriage rates for China are not available, it is not possible to quantify how much late marriage has contributed to falling total fertility rates. Nevertheless, it appears that China's birth planning program as a whole, which includes convenient access to a wide array of birth control methods and strong communal pressures for small families, has been exceptionally successful. In 30 years China's crude birthrate has declined from more than 40 to less than 20 per 1,000 — in fact, to 18.34 per 1,000, according to a recent official statement (35). Because of the large number of young women in China today, such a dramatic fall in the birthrate must indicate substantial declines in the fertility rates of younger women — much of which can be attributed to delays in marriage.

One-Child Family

For the future, Chinese leaders seem to be putting less emphasis on further postponing marriage and more emphasis on small families. A major government report on population issues, dated August 11, 1979, mentions "delayed marriage" only once: it recommends more publicity to make delayed marriage and planned births "a social habit" (35). The report is by Chen Muhua, China's only female Vice Premier and the Head of the Family Planning Leadership Group of the State Council. The major message of the report, which is one of the most forthright justifications for a policy of population limitation ever delivered by a Marxist leader, focuses on the need to encourage the "one-child family" (36, 37). All higher order births, that is, after the second child, are to be "resolutely prevented," and the new ideal will be the one-child rather than the two-child family. To achieve this goal, the government report calls for stronger party leadership on population issues, more publicity and education, new laws that include rewards and penalties, research and training in contraceptive sciences, and a strong organizational structure (35).

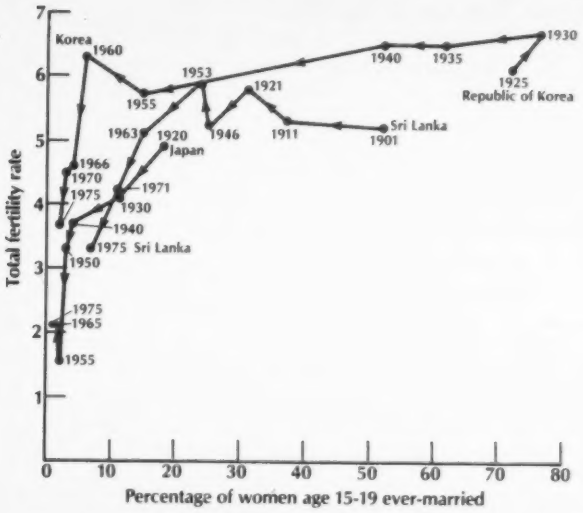
Chinese leaders may be recognizing that attempting to increase age at marriage beyond current levels would arouse public opposition and yield diminishing demographic returns (37). Demographers in China calculate that each year for the next decade or so about 23 million young men and women will reach the recommended ages of marriage (37). This means roughly 11 million marriages. If each couple has one child within about a year of marriage, 11 million births will occur each year, producing a birthrate of about 12. If each couple has a second child later, these births, added to first births to newly married couples, would approximately double the birthrate. Therefore further delay of marriage, while it could mean an entire generation less by the end of a century, will not have the same immediate demographic impact as eliminating all third-order births now and encouraging as many couples as possible to have only one child.

Sexual and Contraceptive Behavior in Korea

The fertility rate for women age 20-24 fell by almost 30 percent between 1960 and 1975 (see Table A5, p. M-153). How was this accomplished? Did all young women abstain from sexual activity while delaying marriage? Or has increased use of fertility control also helped to limit the fertility of unmarried as well as married women? Evidence is limited, but it suggests the latter.

In Korea, premarital childbearing is disparaged and rare, but premarital sexual activity is not rare and may be increasing.

Figure 8. Trends in Total Fertility by Percentage of Women Age 15-19 Ever-Married in Three Asian Countries, 1901-1975



In Korea and Sri Lanka, the proportion of women ever-married at ages 15-19 had declined substantially well before marked declines in total fertility began. In Japan, the proportion ever-married at 15-19 was already low and a dramatic fertility decline under way by the date of the earliest available data. To read this figure, begin at the country name and earliest date shown (on the right-hand end of each line). The arrowheads show the direction of time. Movements from right to left show a decreasing percentage of women ever-married at 15-19, i.e., a rising age at marriage; movements from top to bottom show decreases in fertility. Thus in Korea, for example, the proportion married at age 15-19 dropped considerably between 1930 and 1955 (movement toward the left) while the total fertility rate declined by one (movement toward the bottom). Between 1960 and 1975, with age at marriage already high and contraceptive use spreading rapidly, the proportion married at age 15-19 declined only slightly, but the total fertility rate dropped sharply. Thus, for these countries the relationship between age at marriage and total fertility rate over time takes the form of an elbow curve.

Notes:
Total fertility rates are estimated from crude birthrates, on the basis of rates in similar countries, for Japan, 1920-1955 (crude birthrates are unadjusted); Sri Lanka, 1901-1946; South Korea, 1910-1955/1960.

Total fertility rates for South Korea are the average of the five years preceding and including the date reported, which is the date of the datum on percentage married age 15-19.

Japan: 1975 percentage ever-married at age 15-19 plotted against 1974 total fertility rate.
Sri Lanka: 1975 percentage ever-married at age 15-19 plotted against 1974 total fertility rate.
Korea: 1960 percentage ever-married at age 15-19 plotted against 1960-1961 total fertility rate. 1966 percentage married at age 15-19 plotted against 1965 total fertility rate.

Sources: Korea — Kwon et al. (144), Blayo (18); Sri Lanka (228), UN ESCAP (264), see also Table A3 in supplement, available on request; Japan — Blayo (18), Taeuber (241), see also Table A3 in supplement.

According to the Korean World Fertility Survey, 11 percent of women who had been married for five to nine years had their first children either before or within seven months after marrying. By comparison, women who had been married for 10 to 19 years reported only 6 percent of their first children were conceived premaritally (139). A combination of two effects may explain this difference: first, premarital sexual activity may be growing more common as the unmarried proportion of the population increases and, second, women who marry at older ages (and so have been married for fewer years) are more likely to have engaged in premarital sexual activity. Since birth control has become increasingly available over the past two decades and unmarried people are strongly motivated to prevent births, the increase in premarital conception rates presumably underestimates the increase in premarital sexual activity.

Unmarried women may be turning increasingly to abortion to prevent births, indirect evidence suggests. Sung-bong Hong and Christopher Tietze estimated that in the city of Seoul in 1977-78 about 2,750 abortions would be performed for every 1,000 live births (101). Data from a 1971 survey yield an estimate of 750 per 1,000 (102). The difference, according to the researchers, may be due not only to increasing use of abortion, but also to the exclusion of unmarried women from the earlier study (101).

Contraceptive use among unmarried women has not been studied, but a substantial minority of young married women use or have used contraception. By 1973 an estimated 30 percent of currently married women age 20-24 were using a contraceptive method as compared with only 10 percent in 1964 (most using rhythm or withdrawal) (139, 263). Practice of rhythm and withdrawal has not diminished, and use of more effective methods has increased. In 1973, 20 percent of women with no living children reporting having used contraception at some time (139).

Increased sexual activity before marriage and increased abortion are characteristic of many countries where the age at marriage is over 20, including the United States. Korea is used as an example here because data are more complete and more accurate than data from most other developing countries. Overall, the major reason for low fertility in Korea today is the fact that more than half of ever-married women — 52 percent — have used effective modern methods of family planning — pills, IUDs, condoms, sterilization, and vaginal methods (139). In this context, a higher age at marriage means a smaller number of married women currently exposed to pregnancy and potential contraceptive failure and a shorter period of exposure.

Sri Lanka

In Sri Lanka, as in Korea, age at marriage has been rising since at least the turn of the century. A slow decline in fertility began in the early 1960s, and rising age at marriage seems to have played a part in lowering fertility (see Figures 7 and 8). Until 1971, age-specific fertility rates for women under age 25 dropped faster than those for older women. Some of this decline is due to later marriage, some to contraceptive use.

From 1921 to 1960, crude birthrates in Sri Lanka fluctuated between highs of 42 and lows of 34 while the singulate mean age at marriage remained quite high — over 20 — and increased to 22.1 in 1963. After 1960, the crude birthrate dropped gradually from the high 30s to the high 20s in 1973, while the singulate mean age at marriage increased somewhat more to 23.5 in 1971. In other words, in Sri Lanka, as in Korea,

a relatively high age at marriage — over 20 — coexisted with a crude birthrate in the high 30s for several decades prior to 1960 (228).

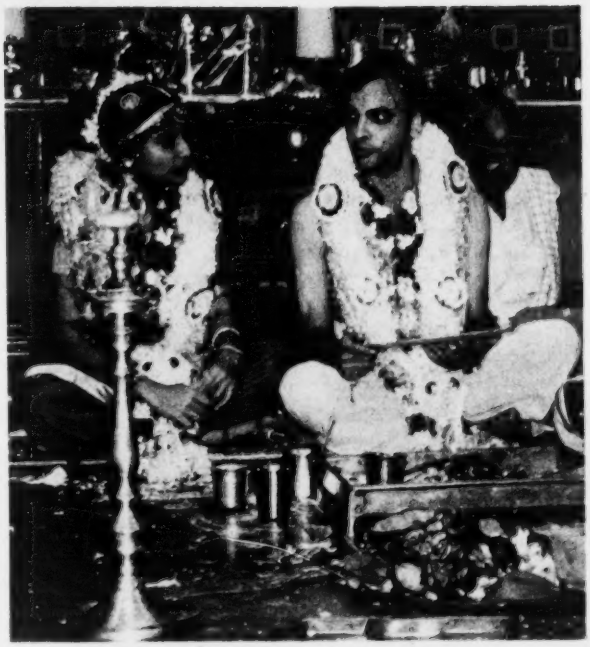
Dallas Fernando, using a decomposition technique of analysis, calculated that all of the decline in the crude birthrate from 1963 to 1971 could be attributed to the reduction in the proportion married if marital fertility and the age-sex structure of the population had remained as they were in 1963. In fact, changes in the age structure counteracted some of the effects of changing marital structure. The net effect of these two contradictory trends accounts for 63 percent of the fertility decline while decreasing marital fertility accounts for the remaining 37 percent (80). (See Table 4.)

Age-specific fertility rates show that a substantial proportion of the drop in fertility since 1953 is attributable to women under age 25. Between 1953 and 1963 half the drop in total fertility was due to the lower fertility of these women, mostly accomplished by postponement of marriage and first birth. Their fertility declined by 22 percent. The drop in the fertility rate for women age 25 and older, a large proportion of whom were married, suggests that traditional birth control techniques were being used to some effect even before modern methods became available. (See Table 5 and Table A5, p. M-153.)

From 1963 to 1971 the fertility rate of women under age 25 dropped by 23 percent — virtually the same change as in the preceding decade. This decline, however, involving smaller absolute numbers, accounted for 36 percent of the total fertility decline. Also, larger declines occurred in older age groups between 1963 and 1971 than had between 1953 and 1963, perhaps reflecting the adoption of contraceptive methods by more married women.

National data used in analyses like these can mask wide variations within a country. In some districts of Sri Lanka marriage is late and fertility rates at all ages are low, while in other districts early marriage is common and fertility rates are high. And there are districts with intermediate rates, perhaps because two distinct cultural groups, adhering to their own marriage and fertility patterns, live in the same district (80, 228, 264, 298). The Sinhalese living in the coastal cities and the wet zone (the southwestern portion of the country) usually marry late and have relatively few children, often practicing rhythm or extended abstinence during marriage, while the Tamils, who live in the uplands, usually marry young and have many children, although some older Tamil women are now turning to sterilization. The Kandyan Sinhalese, who live in the valleys of the interior, often practice cross-cousin marriage and marry young, but when they marry outside the family they marry late (80, 228, 229, 264, 298). The cultural acceptance of late marriage has acted together with socioeconomic factors to produce a very late age at marriage for some cultural groups in Sri Lanka.

The socioeconomic factors encouraging late marriage have chiefly been shortages of good agricultural land (due to population growth), out-migration of young men, and inadequate employment opportunities for young men in tandem with increased educational opportunities for women. Agricultural employment has not grown as fast as the rural population, and the pressure on the land is evident: employment per acre on rice paddies rose from 139 in 1953 to 151 in 1971. Some 16 percent of men 20-24 were unemployed in 1963; 28 percent in 1971 (228). The increasing scarcity of jobs discourages men from setting up households. It also encourages men to migrate, both to the cities and to other countries, making early marriage more difficult (73). For every 100 women age 20-30, there are only 75 men age 25-34 (228). The economic situation for women is worse than that for men. In 1971 some 30 percent of the female labor force and 46 percent of women 20-24 in the labor force were unemployed (228). Educational facilities have expanded, however (73, 228), and education for young women, along with volunteer service work, has been the major substitute for early marriage, particularly among the Sinhalese (105) (see box, p. M-124).



The maturity of the bride and bridegroom in this South Indian wedding reflects their high social status. The majority of Indian women — almost 60 percent — marry before age 20. (United Nations/Rothstein)

While abstinence associated with late marriage has played a substantial role in reducing the fertility rates of young women, the considerable use of contraception by young married women suggests that birth control has also played an important role. In 1975, 30 percent of married women under age 25 had used contraception, as had 20 percent of married women with one child (229).

Conclusion: Asia

The delay in marriage and first birth has been an important part of the transition to lower birthrates in Asia. While recent declines in fertility are evident in all age groups, rises in age at marriage and first birth tended to precede reductions in the fertility of older women. This is especially true in countries where the social and economic conditions that provide incentives to limit reproduction arose before modern methods of contraception were available. When family planning programs, both private and public, were initiated in the 1960s, older women became the principal beneficiaries, finding modern contraceptive methods more acceptable and more effective than the traditional methods — abstinence, withdrawal, and abortion. Thus fertility among older women has fallen more rapidly in the last decade than fertility among younger women. Nevertheless, the numbers of younger women are now so large that even small reductions in their fertility rates can produce important reductions in the annual crude birthrate.

Contrasting Patterns Exist In Sri Lanka

While interviewing women in developing countries around the world, Perdita Huston heard a 31-year-old Sri Lanka woman, with a secondary education and engaged to be married, discuss her plans for childbearing.

How did you meet your fiancé?

He has no mother, no family. He has to prepare his meals and take them to his workplace. One of my friend's mother arranged it, thinking that he needed to be married. I have met him but I have not spoken. In groups, yes, but not alone. He hasn't come to my mother officially, but I think he is coming soon. I have asked several people; they say he doesn't take liquor. I think I like him very much.

Do you have any idea how many children you would like to have, once married?

Three or four.

Why not more?

If we have enough money, it doesn't matter having more children. My fiancé has a steady income but we do not have property. We have nothing to back us. We have only our daily wages. That is all we can earn. If we were very well off, we would have lots of property, we could afford more children. But with the present situation, we can't have more than three or four because the children would have to suffer. I want to educate them well. I want them to have good jobs. I want to look after them well and see that they are provided for. We would have too little time to give them attention and love if there were many more. (105)

* * * * * *

For a 45-year-old woman who had worked as a tea plucker on a plantation since she was 10 years old, a woman's life still seems very hard.

How old were you when you had your first child?

I attained puberty when I was 12, so I was married at 12. My parents arranged the marriage. I did not know my husband before. I was 13 when my first baby came.

Can you tell me how you think your life is different from your mother's or your grandmother's life?

My mother had just three children. I have a younger sister and an elder brother. As a child I was all right, but now I find it extremely difficult to live because I have such a large family — eight children. That's the main difference.

What do you think is a good family size in today's times? What is the best number of children per family?

If people have more than three, they will find it extremely difficult to make out.

And what are you telling your daughters about having smaller families?

I won't say anything to them. I am a poor example, myself. And then, having a child is so good.

And now a silly question. Did you ever think that it might have been better to have been born a boy?

Oh yes, I have thought of it several times. If I had been born a male I wouldn't have to go through all this agony of bearing so many children and have all these difficult problems to face. I think if I were a man I wouldn't have as many problems. (105)

MIDDLE EAST

In the Muslim Middle East, bounded by Pakistan on the east, Turkey on the north, the Sudan on the south, and Morocco and Western Sahara on the west, early arranged marriage remains common, part of the Islamic tradition of secluding women, or *purdah*. In this region, 18 countries have data on age at marriage and 20 on total fertility (see Table 6). These countries occupy an intermediate position between the late marriage–low fertility pattern that prevails in East Asia and the early marriage – high fertility pattern of the Indian subcontinent. As in Asia, fertility rates are higher where early marriage is most common and lower where marriage is delayed, but the relationship is less pronounced than in Asia (see Figure 9). In general fertility rates are high throughout the region — close to or above 5 — even where women marry relatively late. Decreasing fertility among older women has had more impact on total fertility rates than the decrease in fertility among younger women which might be attributed to rising age at marriage. The sole exception is Bahrain, where lower fertility among women under 25 has accounted for almost half of the fertility decline.

Prevalence of Early Marriage

The average percentage of women age 15-19 who are married in the 18 Middle East countries with data available is 34. The fertility rate for women 15-19 is correspondingly high — 99 per 1,000 women. The total fertility rate is also high, averaging 6.1 for women in 20 countries. (See Table 6.) It is slightly lower if Libya and the Sudan, where the latest available data are pre-1960, are excluded.

The range of percentage married at young ages varies widely in the Middle East. Early marriage reportedly is least common in Tunisia, with only 6 percent of 15-19 year olds reported married in 1975; Lebanon, with 13 percent in 1970; and Turkey, with 22 percent in 1975. Total fertility rates in two of these countries are the lowest in the region — 4.9 in both Lebanon (1970) and Turkey (1973). While the fertility rate in Tunisia of 5.8 (1976) is considerably higher, it nonetheless ranks fifth (see Table 6). Early marriage was most common in Libya with 72 percent of 15-19 year old women married in 1964, Western Sahara with 61 percent in 1970, and Afghanistan with 52 percent in 1972-1974. Only rough estimates are available, but total fertility was probably 7 or more in these countries (203, 259).

A tenuous relationship between early marriage rates and total fertility can be seen in Figure 9 by comparing the countries at one end of the range of rates of early marriage to those at the other end of the range. In the eight countries where the percentage married at age 15-19 is equal to or less than the regional median of 32 percent, the total fertility rate averages almost 6.

←

This and subsequent interviews with women in developing countries are excerpted from *Message from the Village*, by Perdita Huston (New York, Epoch B Foundation, 1978). Copies of the book can be obtained by writing: Office of Public Information, United Nations Fund for Population Activities, 485 Lexington Avenue, New York, New York 10017, USA. (Price: $3.95 (US); make checks payable to Epoch B Foundation.)

Table 6. Marriage, Fertility, and Socioeconomic Factors, Most Recent Available Data, Middle East

Country	Year	% Females Age 15-19 Ever-Married	Rank Order	Source Code[a]	Year	ASFR Age 15-19	Rank Order	TFR	Rank Order	Source Code[a]	Year	% Females in School at 1st & 2nd Levels[b]	Rank Order	Year	% Females Age 20-24 Economically Active[c]	Rank Order	% Urban[d]	Rank Order
Tunisia	1975	6	1	M94	1976	65	4	5.8	5	F89	1976	45	9	1975	27	2	NA	
Lebanon	1970	13	2	M81	1970	NA		4.9	1	F76	1972	74	2	1970	24	3	58	1
Turkey	1975	22	3	M95D	1973	64	3	4.9	1	F91	1974	55	7	1975	46	1	39	6
Syria	1970	28	4	M90	1970	83	7	7.7	15	F86	1976	62	5	1975	24	3	44	3
Bahrain	1971	29	6	M71	1976	77	6	5.2	3	F64		NA		1971	12	10	NA	
Kuwait	1975	28	5	M80A	1975	128	11	7.2	11	F75	1975	67	3	1975	15	8	22	11
Egypt	1966	30	7	M72	1973	24	1	5.2	3	F66	1975	44	10	1975	12	10	35	8
Jordan	1972	30	7	M78	1976	57	2	6.5	7	F72	1976	63	4	1976	23	5	NA	
Iraq	1965	32	9	M76	1974-75	129[e]	12	6.9	10	F69	1976	50	8	1975	5[f]	14	51	2
Iran	1976	34	10	M74	1973-76	134	13	6.3	6	F68	1976	56	6	1972	10	12	41	5
Morocco	1971	34	10	M83	1973	74	5	7.4	14	F79	1975	27	12	1973	14	9	12	12
Pakistan	1975	38	12	M87	1974-75	119	9	7.2	11	F82	1975	19	14	1977	7	13	28	9
Sudan	1973	43	13	M88	1958	179	15	6.8	8	F85	1976	20	13	1973	18	7	44	3
Algeria	1966	47	14	M69	1969-71	102	8	7.2	11	F62	1975	44	10	1975	4[g]	16	39	6
Yemen Arab Rep.	1975	50	15	M97		NA		NA			1975	3	16	1975	5[f]	14	NA	
Afghanistan	1972-74	52[h]	16	M68	1972-73	137	14	7.7	15	F60	1976	5	15	1975	21[f]	6	10	13
Western Sahara	1970	61	17	M96		NA		NA				NA			NA		NA	
Libya	1964	72	18	M82	1959	119	9	6.8	8	F77	1976	103	1	1973	7		28	9
Oman		NA			1975	NA		7.3		F80		NA			NA		5	14
Qatar		NA			1975	NA		7.2		F83		NA			NA		NA	
Saudi Arabia		NA			1970-75	NA		7.2		F84	1975	24			6[f]		NA	
Yemen, People's Democratic Rep.		NA			1973	NA		6.1		F92	1974	30			5[f]		NA	
All countries																		
Unweighted mean		37				99		6.6				44			15		33	
Weighted mean[i]		34				99		6.1				36			16		34	

NA = not available.

[a]Codes refer to source information listed in Table A-6 of supplement, available on request.

[b]Source: UNESCO (267), Table 1. The gross school enrollment ratio at the first and second levels is the total enrollment of pupils of all ages at those two levels divided by the population of official school ages for those two levels. For countries with nearly universal education of the school-age population at the first level, the gross enrollment ratio will exceed 100 if many pupils are older than the official school ages. Second-level schooling includes general education, teacher training, and other secondary-level vocational-technical training. All ratios are expressed as percentages.

[c]Source: International Labour Office (121) Table 1A, or (122) Table 1 unless otherwise noted. Economically active population defined as employers, the self-employed, employees, unpaid family workers, members of producers' cooperatives, members of the armed forces, and unemployed persons with previous job experience.

[d]Source: 1970 data from World Bank (294), p. 510-513. Percentage of the population living in urban areas, generally defined as cities and towns; national definitions vary.

[e]As of 1965

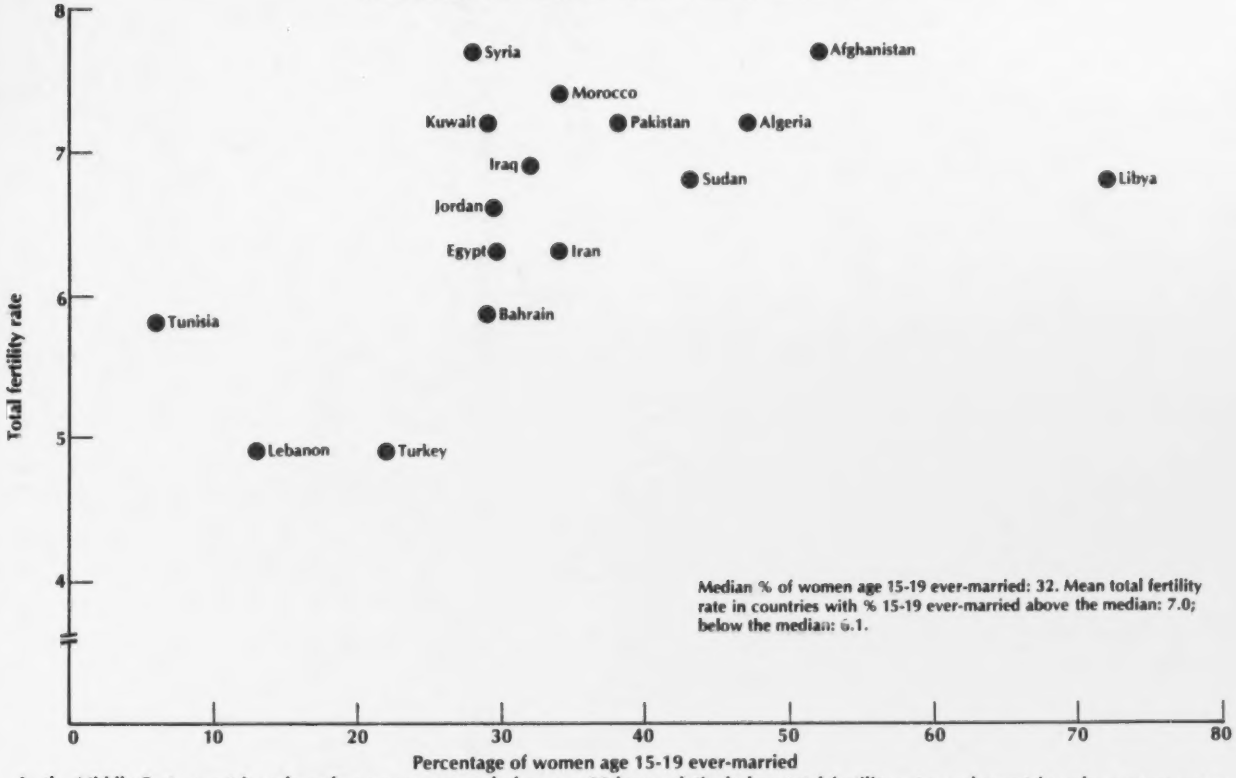
[f]Source: International Labour Office (122) Special Table. ILO projection for midyear 1975.

[g]Excludes 1.2 million women in agriculture.

[h]Rural population only

[i]Mean weighted by 1975 population as reported in US Bureau of the Census (280).

Figure 9. Fertility Rate by Percentage of Women Age 15-19 Ever-Married, Most Recent Available Comparable Data, Middle East



In the Middle East, countries where few women marry before age 20 have relatively low total fertility rates and countries where many marry before age 20 have high fertility rates. Where the proportion marrying before age 20 is moderate for the region (between 25 and 40 percent), fertility rates vary considerably.

In the eight countries above the median, it averages almost 7. The relationship is fairly consistent. The major exception, Syria, has a relatively low percentage married at 15-19 years but a high total fertility rate. In general, moderate levels of early marriage coexist with a wide range of total fertility rates. For example, there are nine countries with 25-40 percent of women 15-19 ever-married, and total fertility in those nine countries ranges from 5.2 to 7.7.

Trends in Age at Marriage and Fertility

Age at marriage has risen recently in 8 of the 11 Middle East countries for which trend data are available (see Figure 10). These increases have not always been associated with decreases in total fertility, however. Age-specific fertility rates are available for six of the eight countries — Bahrain, Kuwait, Morocco, Pakistan, Tunisia, and Turkey (see Table A7, p. M-154), and in five of the six slight decreases in the fertility of 15-19 year olds confirm the increase in age at marriage (see Table 7 and A7). Tunisian data show a considerable increase in age at marriage from 1971 to 1976, but paradoxically also an increase in the fertility of 15-19 year olds. Questions have been raised about the accuracy of the age at marriage data (see p. M-129). Recent data on age at marriage are not available for Egypt or Iraq, but no substantial increase took place in the 1960s. In Jordan age at marriage did not change through 1972.

In the eight countries with reported increases in age at marriage, trends in total fertility have been mixed. Of the five countries with reliable data, total fertility has declined in Bahrain, Iran, and Tunisia but has not changed much in Kuwait and Turkey. Of the three countries with less complete estimates of fertility, little change occurred in Syria through 1970 (259, 269) or in Pakistan through 1974-75 (8, 193), and in Morocco total fertility may have increased between 1960 and 1973.

In Egypt, although 30 percent of 15-19 year olds were married in 1966, early fertility rates were relatively low. Total fertility in Egypt declined between 1966 and 1972, when the crude birthrate reached a low of about 34 per 1,000. In 1979, however, the government announced that the crude birthrate had risen in 1978 to 38.7 (32). Some of the increase may be due to improved registration. Recent changes in age at marriage are not known.

There are only four countries where it is possible to estimate the contribution of postponed marriage to declining fertility rates by comparing changes in age-specific fertility rates among younger women to changes in fertility rates among older women. In three of the countries, Egypt, Tunisia, and Turkey, declining fertility among younger women has not been responsible for most of the drop in the total fertility rate. In Egypt up to 1972, change among women under 25 accounted for about 20 percent of the decline in the total fertility rate and among women over 35 for about 25 percent of the decline, with 56 percent attributable to women in the middle range of 25-34. In Turkey, 28 percent of the decline in total fertility was due to the drop in fertility among women under 25, but 72 percent of the decline was among women over 35 (see Table 7).

In Bahrain, declining fertility among younger women has been responsible for most of the decline in overall fertility between 1965-1971 and 1971-1976; around 16 percent of the decline occurred among the youngest age group and 42 percent

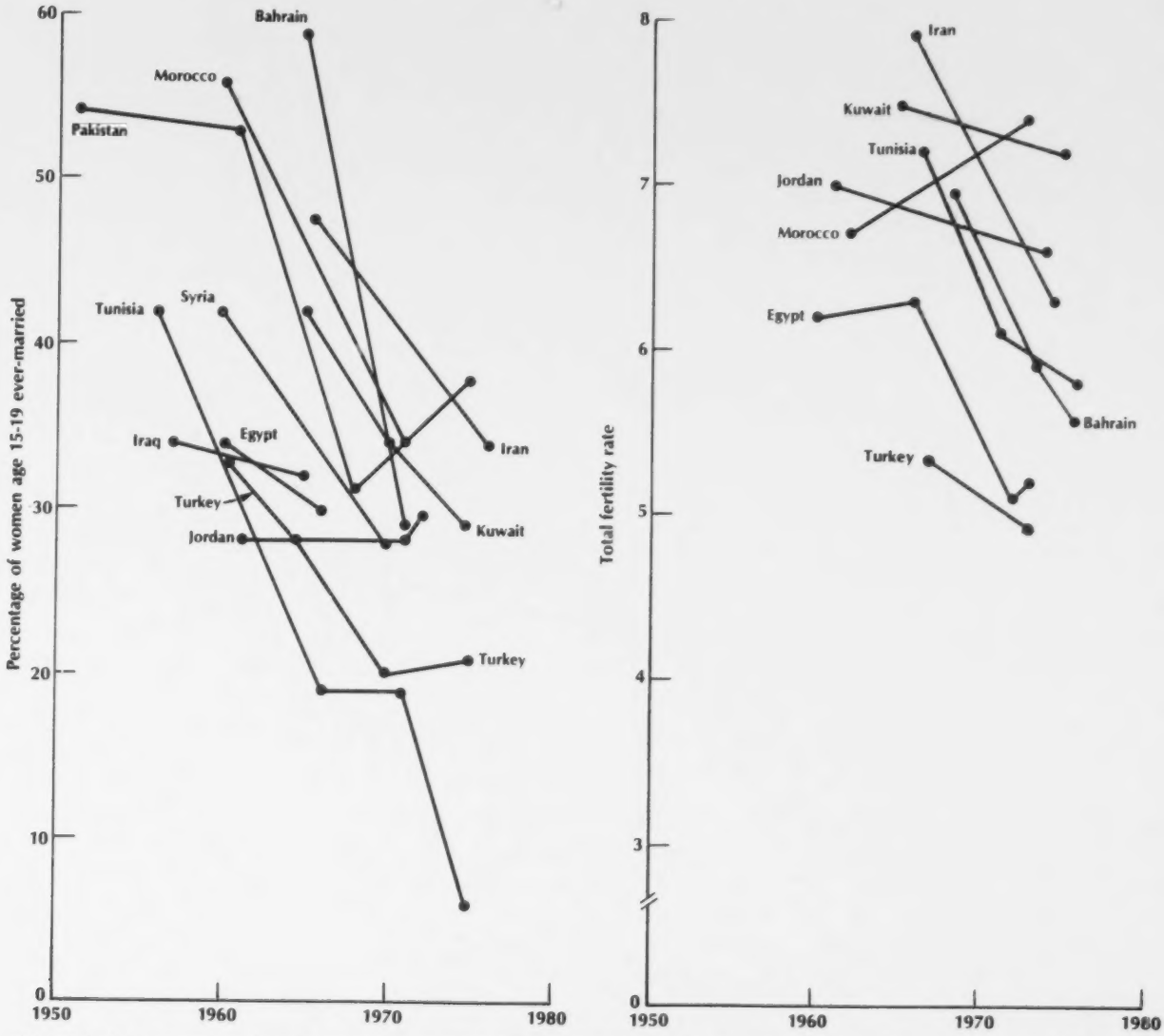
among women age 20-24, or a total of 58 percent among women under 25. Some of this decline is directly due to higher age at marriage. In 1965, 59 percent of women 15-19 and 94 percent of women 20-24 were married, figures that dropped to 29 percent and 83 percent, respectively, in 1971. A marriage squeeze, caused by extremely high birthrates before 1970, the custom of men marrying women 5 to 10 years younger than they, and out-migration of men, may have been a major cause of delay in marriage (63). Although school enrollment for women 15-19 has increased by more than 50 percent since 1965, very few Bahraini women are employed outside their households (63, 260).

Even in countries where early marriage is becoming less common, there has been considerable resistance to reform of marriage customs. Iran and Tunisia are among the countries where age at marriage clearly has been rising and birth control is more widely used, especially in the cities. The governments of both countries during the 1960s and 1970s tended to encourage later marriage, partly to encourage lower fertility and partly to promote social reforms for women. Some opposition, especially religious, has developed in both countries with, in Tunisia, some diluting of government support for improving the status of women and, in Iran, a halt to government support of marriage reform, family planning, and improved conditions for women.

Iran

In 1975, Iran's Family Protection Act changed the minimum legal age at marriage for women with parental consent from 15 to 18 (194). Exceptions were readily granted to women over 15, however, and in rural areas marriages were not always registered, which limited the effectiveness of the law (194). Iranian laws and customs have always been interwoven with the *sharia*, or Islamic law, so this and other changes attempted by Shah Reza Pahlevi offended orthodox religious leaders. In February 1979, a coalition supporting one of these leaders, the Ayatollah Khomeini, overthrew the government of the Shah. The Family Protection Act was denounced, leaving age at marriage largely dependent on Muslim traditional law and local

Figure 10. Trends in Early Marriage and Total Fertility, Middle East, 1951-1976



Although both the proportion of women age 15-19 ever-married (left) and total fertility (right) have declined at rapid rates in the Middle East over the past 15 years, neither has yet reached a low level. The exception is the proportion married reported in Tunisia.

Table 7. Contributions to Declines in Fertility by Women of Various Age Groups in Selected Countries of the Middle East

Country	Source Code	Years	Total Fertility Rates (TFRs)	Decline in TFR	% of Decline Attributable to Women Aged				
					15-19	20-24	25-34	35-49	All ages
Bahrain	F62, F63	1965/71-1971/76	6.9–5.9	1.0	18	39	24	19	100
	F63, F64	1971/76-1976	5.9–5.5	0.4	11	51	35	4	100
	F62, F64	1965/71-1976	6.9–5.5	1.4	16	42	27	15	100
Egypt	F65, F66	1966-1973	6.3–5.2	1.1	5	15	56	25	100
Tunisia	F87, F88	1966-1971	7.3–6.1	1.1	17	20	34	29	100
	F88, F89	1971-1976	6.1–5.8	.3	*	18	31	50	100
	F87, F89	1966-1976	7.3–5.8	1.5	5	21	36	38	100
Turkey	F90, F91	1966/67-1973	5.3–4.9	.4	22	6	0	72	100

Note: Table includes only countries with available data experiencing declines in total fertility exceeding 0.3. Of 6 countries with reliable data, 4 experienced decreases greater than 0.3; 1 experienced no change; and 1 experienced an increase. For age-specific fertility rates in these countries, see Table A7, p. M-154.

*Fertility in this age group increased; see Table A7, p. M-154.

customs (1). Even during the Shah's rule, the conflict between traditional Islamic forces and those interested in modernization had limited the influence of the Family Protection laws (170).

The social pressures that continue to promote early marriage in Iran are typical of the Middle East. Families perceive economic advantages in marrying off daughters at young ages; Islamic teachings encourage early marriage; the high value ascribed to female chastity means finding a suitable match for a girl soon after she reaches sexual maturity; dowry (bride price) is higher for younger women because Muslim men as a general rule consider younger women more sexually attractive and because younger women have higher potential fertility ahead of them (170). Although some young couples establish their own homes, many live with the husband's family; young girls are preferred because they can be more easily incorporated into the household. Cross-cousin marriages are favored and are arranged by families while the intended spouses are young. Sometimes daughters are married off in return for the promise to provide a girl from that family for the son (90, 170, 194, 289, 301, 302).

Except among the upper and middle classes in Tehran, the place of women in Iranian society leaves few alternatives to early marriage. Many Muslims believe that women should not come into contact with men who are not relatives. This belief leads kinsmen to limit severely the activities of women. The physical movement of women in rural areas and in the cities outside of Tehran was and is highly restricted. A woman walking alone on the streets may be touched, teased, and otherwise harassed. As a result, most women seldom venture from the house (194).

Oil revenues brought changes in the economic and social structure of Iran that encouraged later marriage and low fertility. The Shah and especially his twin sister Princess Ashraf and the Empress Farah worked actively to improve the status of women. Women were encouraged to attend school, including Tehran University. School enrollment rates for women rose about as much as men's enrollment rates. In 1965, 17 percent of women and 39 percent of men were enrolled in second-level schools (usually attended by those age 11-16); by 1976 these rates had risen to 35 percent and 61 percent, respectively (267). In early 1979, Khomeini suggested that coeducation be abolished. As a result male and female students had to attend segregated classes at Tehran University.

The practice of female seclusion has kept women's labor force participation levels low. Although in rural areas 20 percent of women were reportedly economically active in 1976, 69 percent of these were unpaid family workers or self-employed, mostly engaged in home industry, weaving rugs (124). In urban areas only 16 percent of women were classified as economically active, but slightly over half of them were professional or technical workers (124). As Nadia Youssef has put it, "Because in Middle Eastern societies the intermingling of the sexes is generally viewed with suspicion and, since the slightest doubts concerning the sex ethics of a woman compromise her entire family, male guardians prevent their women-folk from joining service-type organizations" (302). This rules out sales, clerical, administrative, and managerial jobs as well as domestic service and leaves women few career opportunities except teaching and nursing other women.

Traditional practices of female seclusion, supported by *mullah* (religious leaders) and the *sharia*, are more prevalent in rural areas than in urban areas, and this difference is reflected in age at marriage and fertility rates for 1976. In rural areas, 38 percent of women 15-19 were married, and the total fertility rate was 7.8. In urban areas, 30 percent of women 15-19 were married, and the total fertility rate was 4.4 (271). The prevalence of early marriage declined just as much in rural as in urban areas of Iran from 1966 to 1976, but total fertility fell much more in the urban areas, due mainly to greater use of contraceptives.

In urban areas, later marriage contributed somewhat to the decline in fertility between 1966 and 1976. Using the decomposition technique to analyze the fall in the urban crude birthrate from 42.3 in 1966 to 33.1 in 1976, Michael Roof estimates that decreases in the proportion of women age 15-49 who were married resulted in a drop in the crude birthrate of roughly 3.5 points. Decreases in marital fertility (and its interaction with other factors) would have caused a drop of roughly 8.4 points (211) (see Table 8 and Note in Table 4). This analysis assumes that there were no premarital conceptions, an assumption which may be more valid in Iran and the Middle East than it is elsewhere. Nevertheless, at a Tehran hospital in 1968, women age 15-19 were as well represented among those admitted for abortions as women in any older age group (125), even though a smaller proportion were married. This suggests that premarital conceptions are not unknown in Iran, so the importance of

age at marriage in the urban fertility decline may be slightly exaggerated in a decomposition analysis.

Tunisia

Tunisia has been a leader among Arab nations in freeing women from the veil and encouraging family reform. Nevertheless, official support for changes in marriage laws has met resistance stemming from traditional Islamic beliefs and has occasionally slackened in response to these pressures. While the reported prevalence of early marriage has dropped to levels close to those of East Asia, the total fertility rate has declined only moderately and remains well above rates seen in East Asia.

Within five months after gaining independence in 1956, the National Assembly of Tunisia passed the Personal Status Code. Polygamy was abolished, repudiation of wives (automatic divorce initiated by a husband) was outlawed, and the legal minimum age of marriage for women was set at 15 and for men at 21. President Habib Bourguiba actively supported these reforms and in several speeches spoke against "the veil" and criticized those who felt that women should be kept in seclusion (149, 197, 243).

In 1964 the legal minimum age at marriage for women was raised to 17. The law has received wide publicity and appears to have had some effect. From 1965 to 1968, fewer than a thousand women under 17 married annually; approximately 10 times more women married at 17 than at all ages below 17 (73). In 1963 and 1964, however, just before the law went into effect, a large number of marriages were contracted — 20 percent more than in either 1962 or 1965 (256) — possibly to avoid noncompliance with the new law. More recent marriage registration data show that an increasing number of exceptions to the legal minimum have been granted. Marriages of women under age 17 constituted approximately 3 percent of all marriages in 1968 and 6 percent in 1973 (73, 256).

Census data on the prevalence of early marriage and early fertility show dramatic declines from 1956 to 1971 followed by a leveling or perhaps even a reversal of that trend. The reported proportion ever-married at age 15-19 dropped from 42 percent in 1956 to 19 percent in 1966 and 6 percent in 1975. No 1956 age-specific fertility rate is available, but in 1966 the rate for women age 15-19 was 78. It fell to 40 in 1971, but then rose to 67 in 1975, despite the continued decline in the reported percentage married. The 1975 figures imply a marital fertility rate of 1,113 births per 1,000 women, an impossibly high figure. Misreporting of age is probably the reason. Because of the marriage law, census takers and respondents may be inclined to overstate the ages of young married women, especially if they have children. If so, rise in age at marriage has probably been more gradual than the census estimates suggest.

What effect did the shift to later marriage have on overall fertility? The crude birthrate did not change between 1956 and 1966 (217). Any lower fertility among young women must have been counterbalanced by higher fertility among older women. (No age-specific rates are available from the 1956 census.) From 1966 to 1976, the total fertility rate fell from 7.2 to 5.8; the decline was almost evenly distributed among women age 15-24, women 25-34, and women 35-49 (see Table 7).

What factors account for the recent trends toward later marriage and lower total fertility? In the first 10 years after Tunisian independence, official support for marriage and family reform was accompanied by social and economic changes that prompted delay of marriage. Also, from 1968 to 1975, many young single men left the country to work elsewhere. As a result, in 1974 there were only 58 men age 25-29 for every 100 women age 20-24 (73). Many young women could find no men of suitable age to marry.

Another stimulus for change was the emphasis on expanding education for women. The rate of school enrollment for women at the first and second levels (usually attended by those age 6-18) rose from 27 percent in 1960 to 47 percent in 1970. By comparison, enrollment for men rose from 60 percent in 1960 to 79 percent in 1970.

President Bourguiba has been a strong supporter of women's role in a more modern society. Nevertheless, in 1969 he

Table 8. Selected Studies of the Components of Fertility Change in Middle Eastern Countries, Using Decomposition Techniques

Country and Period Studied	Author, Date, Reference No.	Observations and Conclusions
Iran 1966-1976	Roof 1979 (211)	Overall CBR declined 13%%, from 48 to 42. Of this decline, change in percent unmarried accounts for 56%, change in age structure for 11%, and change in marital fertility and interaction of factors for 33%. Urban CBR declined 20%, from 42 to 33. Of this decline, change in marital fertility accounts for 93% while change in age structure and in percent married offset one another. Rural CBR declined 4%, from 52 to 50. If 1966 rural age structure and rural percentage married had prevailed in 1976, the change in rural marital fertility would have increased the rural CBR by 4%. However, change in rural age structure, given 1966 rural percentage married and rural marital fertility, would have lowered the rural CBR by 1%. Similarly, change in rural percentage married, given 1966 rural age structure and marital fertility, would have lowered the rural CBR by 7%. In summary, changing marital fertility was almost entirely responsible for the large drop in urban fertility; changing marriage patterns, while of no greater impact in rural areas than in the cities, accounted for the slight drop in rural fertility.
Tunisia* 1966-1975	Tabutin 1979 (240)	CBR declined 23%, from 46.1 to 35.6. Of this decline, change in age structure accounts for 4.4%, combined change in age structure and in percentage married for 56%, and combined change in age structure and in marital fertility for 40%.
Turkey 1960-1975	Ozbay et al. 1978 (327)	CBR declined 29%, from 45 to 32. Of this decline, change in percentage married accounts for 23%, change in marital fertility for 69%, and change in age structure for 8%.

*Tunisians and foreign residents

warned that too much reform would lead to "a loosening of our morals" and that freedom "must be coupled with religious and moral education in order to produce the respect for virtue that was formerly assured by long robes and heavy veils" (243).

Public attitudes toward the position of women seem to be ambivalent. In surveys of literate employed people in Tunis and three smaller towns, for example, the percentage answering "Yes" to the question, "Is it acceptable for a woman to direct a professional enterprise employing many men?", fell from 46 percent in 1967 to 32 percent in 1973. Other questions on women's position drew similar responses (243). The government has slowed its expansion of the educational system because it cannot provide jobs for all graduates and because the quality of education was diminishing with too rapid expansion (243). By 1977, school enrollment at the first and second levels had declined from 47 to 45 percent for women and from 79 to 70 percent for men (267).

At the same time, Tunisia has undertaken the most comprehensive population/family planning program in the Middle East and Africa. Beginning from a pilot project in Bizerte in the 1960s, the program was extended nationwide, and in 1974 a semiautonomous government agency was established under the Ministry of Health. The government has legalized both abortion and sterilization, taken oral contraceptives off prescription, and encouraged door-to-door distribution of pills and condoms (201). Yet Tunisian officials remain sensitive to religious concerns, and the program is implemented largely in the context of health services.

Overall, Tunisia has seen rapid change, reflected in a substantial decline in reported early marriage (before age 20) and a moderate decline in total fertility.

In Tunisia Some New Freedoms for Women

An 18-year-old Tunisian woman from the town of Sfax described to Perdita Huston the differences between her own life and her mother's life:

Can you tell us about your mother's life and how it differs from yours?

The difference is that my mother was married off at a very young age. They put her into the hands of her husband and there she was. She had to obey everything. She had nothing. That was in colonial times. Now we are an independent country. We enjoy many freedoms that our mothers knew nothing about. Before, women only went out of the house to gather olives or work in the fields, and they were wrapped up in the traditional costume. Luckily now we have left that behind, and we have abandoned the veil.

How did you happen to come to this [rural job training] center?

My sister encouraged me to come here. She even registered me. It was my brother who opposed it. He kept me from coming for a long time because he is very suspicious. He doesn't want his sisters to be emancipated. My mother convinced him by saying this center was very isolated and that I wouldn't risk anything here. I would not be in danger. That was the most important argument. Then my sister and my mother registered me and told my father that it was a very good thing. They convinced him that I would learn a trade. He wanted me to be able to earn a living, and he always kept saying, "What will I do with you if you can't earn anything?"

If you were in a position to help women, what would you like to do for them?

One of the most important things to teach women is family planning. Teach them to have only two children so that they can educate them, dress them properly, give them everything they need. We must teach women how to help their husbands and help them carry the load of life together.

The young woman hesitated a moment, thought some more, looked up at us and continued:

One should educate the women who have remained closed up at home without any contacts with the outside. Teach them to educate their children. Teach them to never give a daughter to a man she doesn't know or doesn't love. That is the way to assure a good life, a better life, a better future for them. (105)

AFRICA

The countries of sub-Saharan Africa (excluding North Africa, southern Africa, and islands off East Africa) have the highest levels of early childbearing of any region in the world, averaging more than 50 percent higher than other high fertility regions. Africa has about the same proportion of women married at age 15-19 as the Indian subcontinent but higher total fertility. Within the region there is little association between early marriage, early childbearing, and the total fertility of countries. While Africa ranks low in female school enrollment and urbanization, it has one of the highest proportions of economically active young women of any region, but neither outside employment nor higher levels of school enrollment appear as closely linked to lower fertility as they are in other parts of the world.

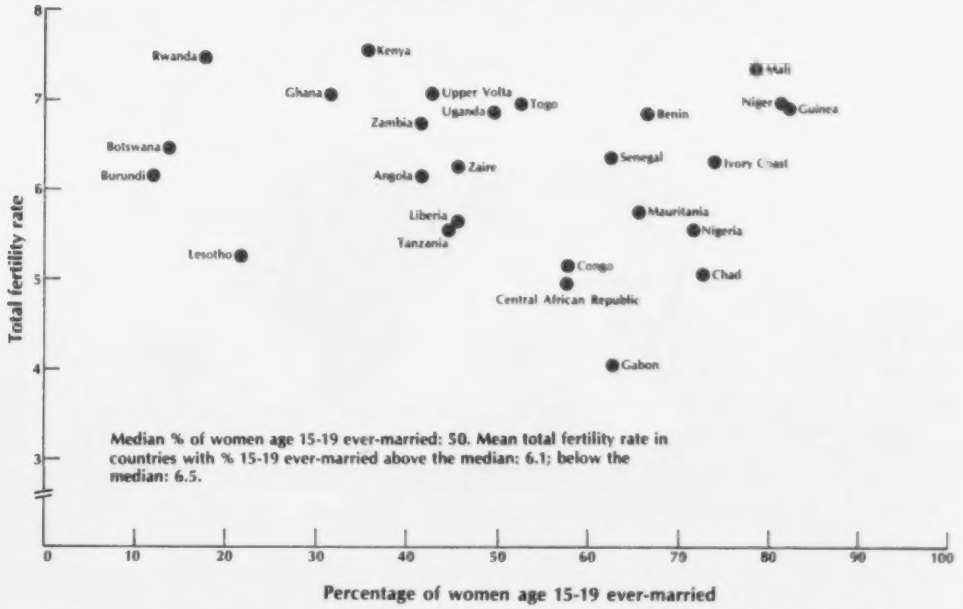
There are three reasons for these disparities. First, many of the African data are old and of poor quality. (More information from surveys now underway in Africa, including those under the auspices of the World Fertility Survey (134), may provide more extensive and up-to-date information.) Also, women frequently do not know their exact age and underreport both infant mortality and live births.

Second, the demographic transition is at an earlier stage in Africa than in most other regions. Mortality rates, especially infant mortality, are still high in many areas, and there is little evidence of declines in fertility. Data on trends in marriage and early childbearing are few.

Third, throughout Africa there is great local variation in marriage customs, which produces different fertility patterns even within the same country. Influencing these customs in parts of Africa are high rates of infant mortality and a high incidence of infertility and subfecundity. Polygamy often exists side by side with a high rate of widowhood, divorce, and remarriage.

Because of the considerable differences among countries and among areas, no one country was selected to exemplify Africa, as has been done for other regions in this report. Instead, data from various countries will be used to illustrate the relation-

Figure 11. Fertility Rate by Percentage of Women Age 15-19 Ever-Married, Most Recent Available Comparable Data, Africa



In Africa, total fertility rates are moderate to high regardless of the proportion married at ages 15-19. No relationship is readily apparent.

ships that seem to exist among age at marriage, fertility, and socioeconomic factors under different conditions.

Prevalence of Early Marriage

In comparison with women from most other regions, African women marry young. According to the most recent available data from 28 countries, the average proportion married among women 15-19 was 55 percent (see Table 9), close to the 58 percent seen in the Indian subcontinent. Fertility rates among women 15-19 are also high, averaging 164 births annually per 1,000 women age 15-19 in 31 countries where data are available. These rates of early fertility are comparable to recent rates in some Muslim countries — Afghanistan, Bangladesh, and Iran — and in some Central American and Caribbean countries — Belize, El Salvador, Guatemala, Honduras, and St. Kitts-Nevis — and to rates in several other areas — Dominican Republic, Indonesia, and Panama — at the time when many of the African data were gathered.

Marriage is nearly universal in Africa (29, 284). While almost every woman marries at least once in her lifetime, the prevalence of early marriage varies widely from country to country and even from one area to another within African countries. Marriage close to the age at menarche is common in most Islamic areas — for instance, the Sahel states of Mali, Chad, Niger, Mauritania, and the northern region of Nigeria. In northern Nigeria, for example, the 1964-1965 Rural Demographic Sample Survey found that the median age at marriage for rural women was 14.8 years (175). In 1973, 43 percent of the women surveyed in Kano, a town in northern Nigeria, reported they had married before the age of 14, and 87 percent had married before age 20 (94). In Sokoto, a city founded in 1809 as headquarters for the Muslim Reform Movement, 94 percent of the women with no "western-style" education and 49 percent of the women who had been to the local girls' boarding school for "western-style" secondary education had married before age 16 (250).

Early marriage has been traditional for women in several other countries in Western Africa. Based on a 1969-1970 survey, the mean age at marriage in Sierra Leone, which is 79 percent Muslim, was 15.7 years (71). While there are no overall figures available for Gambia, John Caldwell and Barbara Thompson, who studied the Muslim village of Keneba in 1962, found that of the 51 females 10-14 years old in the village, 31 were betrothed; of the 32 females 15-19 years old, 24 were married, the rest betrothed. The researchers assert that "in many respects the findings in Keneba are fairly typical not only of Gambia but also of other large parts of West Africa" (30). Northern Cameroun is also a Muslim region, and there the usual age at first marriage in 1960-1961 was 14 or 15 (199).

In general, early marriage may be less prevalent in East and Central Africa than in West Africa. The median age at marriage is at least 17 or the proportion of women married at age 15-19 is less than 50 percent in Angola, Botswana, Burundi, western Cameroun, Ghana, Kenya, Lesotho, Liberia, western Nigeria (189), Rwanda, Somalia, Tanzania, Upper Volta, Zaire, and Zambia (see Figure 11 and Table 9).

Total fertility rates are high in African countries, averaging 6.2 in the 33 countries for which estimates have been made. The average estimated total fertility rates appear to be slightly lower in Central Africa — 5.4 — than in East Africa — 6.7 — or in West Africa — 6.6. A combination of underreporting of live births and infertility associated with poor living conditions, rather than voluntary control over fertility, are probably responsible for lower total fertility such as that in Central Africa (29).

In areas where fertility is usually not controlled except by abstinence and breast-feeding, differences in the age at which sexual activity begins — roughly indicated by usual age at marriage — should have a noticeable effect on overall fertility. Indeed, it has been argued that variation in abstinence within marriage is one of the major factors accounting for variations in fertility in Africa (29), so differences in the length of abstinence preceding marriage could be expected to have an impact.

Prevalence of Early Marriage

Most Recently Reported Percentage of Women 15-19 Ever-Married

Percentage of women age 15-19 ever-married

- 0-9%
- 10-29%
- 30-49%
- 50 + %

Note: In Latin America, reported percentages married may be inaccurate because some censuses have not fully reported consensual and visiting unions. Comparison of age-specific fertility rates age 15-19 for Latin American countries with those for other countries suggests that the percentage of women age 15-19 ever-married may differ markedly from the reported percentage in Costa Rica, the Dominican Republic, French Guiana, Guyana, Mexico, Nicaragua, Panama, and Paraguay, estimated at 30-49 percent in early unions, and in the British Virgin Islands, El Salvador, Haiti, and Honduras, estimated at 50+ percent in early unions (see Table 10, pp. M-140–141).

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Table 9. Marriage, Fertility, and Socioeconomic Factors, Most Recent Available Data, Africa

Country	Year	% Females Age 15-19 Ever-Married	Rank Order	Source Code[a]	Year	ASFR Age 15-19	Rank Order	TFR	Rank Order	Source code[a]	Year	% Females in School at 1st & 2nd Levels[b]	Rank Order	Year	% Females Age 20-24 Economically Active[c]	Rank Order	% Urban[d]	Rank Order
Burundi	1965	12	1	M132	1970-71	56	1	6.2	11	F272	1975	10	25	1975	72	8	2	21
Botswana	1971	14	2	M131	1971	96	2	6.5	16	F271	1976	67	4	1975	76	6	9	17
Somalia	1963	14[g]	2	M151		NA		NA			1976	20	20	1975	36	21	NA	
Rwanda	1970	18	4	M149	1970	103	3	7.5	26	F293	1976	32	14	1975	89	1	4	20
Lesotho	1966	22	5	M142	1966	NA		5.3	5	F284	1976	92	2	1975	74	7	1	22
Ghana	1970	32	6	M138	1967-69	163	12	7.1	22	F280	1976	38	9	1970	61[f]	12	32	2
Kenya	1969	36	7	M141	1978	177	18	7.9	27	F283	1976	64	5	1975	43	20	10	16
Angola	1960	42	8	M129	1960	NA		6.2	11	F269	1972	33	13	1975	9	27	NA	
Zambia	1969	42	8	M158	1974	137	5	6.7	17	F304	1975	58	7	1977	29[f]	24	30	4
Upper Volta	1968	44	10	M156	1973-74	124	4	7.2	24	F302	1976	7	27	1975	85	4	11	14
Tanzania	1973	45	11	M153	1972-73	137	5	5.6	6	F299	1975	36	12	1975	50	16	6	19
Liberia	1971	46	12	M143	1971	188	20	5.7	8	F285	1975	28	16	1974	22[f]	25	NA	
Zaire	1955-57	46	12	M157	1955-58	175	16	6.3	13	F303	1970	38	9	1975	60	13	24	7
Cameroun	1963-64	48[g]	14	M133	1964	226	24	5.7	8	F273	1976	59	6	1975	62	11	20	9
Uganda	1969	50	15	M155	1969	171	14	6.9	18	F301	1976	27	17	1975	45	19	NA	
Togo	1958-60	53	16	M154	1961	151	10	7.0	20	F300	1976	43	8	1975	53	15	13	11
Central Afr. Rep.	1959-60	58	17	M134	1959-60	142	8	5.0	2	F274	1975	30	15	1975	86	3	NA	
Congo	1960-61	58	17	M136	1960-61	138	7	5.2	4	F276	1975	91	3	1975	34	22	38	1
Gabon	1960-61	63	19	M137	1960-61	171	14	4.1	1	F278	1975	107	1	1975	46	18	32	2
Senegal	1960-61	63	19	M150	1976	165	13	6.4	14	F294	1975	21	19	1970-71	64[f]	10	29	5
Mauritania	1964-65	66[h]	21	M145	1964-65	143	9	5.8	10	F288	1971	5	28	1975	3	28	14	10
Benin	1961	67	22	M130	1961	197	22	6.9	18	F270	1975	20	20	1975	69	9	13	11
Nigeria	1965-66	72[i]	23	M148	1965-66	181[j]	19	5.6[j]	6	F292	1973	25	18	1975	50	16	23	8
Chad	1963-64	73	24	M135	1964	162	11	5.1	3	F275	1976	11	24	1975	30	23	12	13
Ivory Coast	1957-58	74	25	M140	1962-64	192	21	6.4	14	F282	1975	38	9	1975	78	5	28	6
Mali	1960-61	79	26	M144	1960-61	219	23	7.4	25	F287	1975	13	22	1975	89	1	11[k]	14
Niger	1960	81	27	M147	1959-60	175	16	7.1	22	F291	1976	8	26	1975	11	26	8	18
Guinea	1955	82	28	M139	1954-55	240	25	7.0	20	F281	1971	13	22	1975	59	14	NA	
Cape Verde		NA				NA		NA				NA		1975	10		NA	
Ethiopia		NA			1968-70	163		5.8		F277	1973	9		1975	46		9	
Equatorial Guinea		NA				NA		NA			1970	38		1975	4		NA	
The Gambia		NA			1973	199		6.4		F279	1976	13		1975	74		10	
Guinea-Bissau		NA				NA		NA			1976	44		1975	3		NA	
Malawi		NA			1970-71	132		6.7		F286	1976	36		1975	53		6	
Mozambique		NA			1970	110		6.6		F290	1972	21		1970	33		NA	
Sierra Leone		NA			1973	237		6.4		F295	1975	19		1975	44		14	
Swaziland		NA			1966	120		6.9		F298	1976	76		1975	74		15	
Zimbabwe Rhodesia		NA				NA		NA			1976	49			NA		NA	
All countries																		
Unweighted mean		51				161		6.3				36			49		16	
Weighted mean[l]		55				164		6.2				30			46		16	

NA = not available

[a]Codes refer to source information listed in Table A9 of supplement, available on request.

[b]Source: UNESCO (267), Table 1. The gross enrollment ratio at the first and second levels is the total enrollment of pupils of all ages at those two levels divided by the population of official school ages for those two levels. For countries with nearly universal education of the school-age population at the first level, the gross enrollment ratio will exceed 100 if many pupils are older than the official school ages. Second-level schooling includes general education, teacher training, and other secondary-level vocational-technical training. All ratios are expressed as percentages.

[c]Source: International Labour Office (122) Special Table (ILO estimated rate for midyear 1975) unless otherwise noted. Economically active population defined as employers, the self-employed, employees, unpaid family workers, members of producers' cooperatives, members of the armed forces, and unemployed persons with previous job experience.

[d]Source: 1970 data from World Bank (294) p. 510-513. Percentage of the population living in urban areas, generally defined as cities and towns; national definitions vary.

[e]For 10 small towns in the north

[f]Source: International Labour Office (121) Table 1A, or (122) Table 1

[g]Douala only

[h]Based on sample survey of 27 urban centers

[i]From Rural Demographic Sample Survey

[j]Rural population only

[k]As of 1960

[l]Mean weighted by 1975 population as reported in US Bureau of the Census (280)

Data from 27 countries for which estimates from comparable periods are available, however, show no association between the prevalence of early marriage and total fertility rates (see Figure 11). The 12 countries where less than half of the women 15-19 are married have an average total fertility rate of 6.5, a rate slightly higher than the average for the 15 countries where half or more are married at age 15-19. Using age-specific fertility among young women as a check on the validity and consistency of age at marriage data, when countries with both a high rate of early fertility and a high rate of early marriage are contrasted with countries where both rates are low, there is still no meaningful difference in total fertility rates. Countries above the median in percentage married and age-specific fertility for women 15-19 have an average fertility rate of 6.4, while countries low on both measures have an average fertility rate of 6.7.

Infertility, Polygyny, and Marital Instability

Several characteristics of African marriage and fertility patterns may explain why, at the national level, age at marriage appears to be unrelated to total fertility. While some aspects of African life encourage both early marriage and high fertility — for example, high infant mortality — other aspects tend to encourage early marriage but do not necessarily encourage high overall fertility. Chief among these are involuntary infertility and marriage patterns that include high rates of polygyny (the practice of having more than one wife), separation, divorce, and widowhood.

Infertility or subfecundity may be partly responsible for the lack of an association between age at marriage and total fertility. Widespread infertility may increase the pressure to marry near the age at menarche because families are concerned about childlessness and want to maximize the childbearing potential of young women. At the same time, of course, both infertility and subfecundity have lowered the total fertility rate, counteracting any effect of early marriage.

Some impairment of fertility, perhaps due to venereal or other diseases and to unsanitary childbirth practices, has been widespread in tropical Africa, particularly in the central regions (6, 210). Low fertility in Gabon in 1960-1961 — an estimated total fertility rate of about 4 — was probably due to infertility. At the time, from 30 to 35 percent of women over the age of 25 had never borne a live child (318), a rate of childlessness much higher than the 5 percent expected in a noncontracepting population (210). In northern Cameroun in 1960, about 35 percent of women 25-45 were childless. In 1959, some tribes in the Central African Republic had birthrates as low as 20. Variations in birthrates within the Congo in 1955-1957 correlate with rates of infertility (210). Regions of infertility have also been noted in Tanzania, Uganda, and Kenya (97, 210).

Polygyny is made possible by marrying young women to older men. A 5-10 year difference in age between spouses assures a sizable excess of women over men in the marriageable ages of a growing population (285). In addition, men married to women who have failed to bear more than one or two children may take on additional wives. Older women are more likely to be in polygynous unions than young women (185, 285), but many of these polygynously married older women are not in their first marriages. They may have had no children in their first marriages and remarried as additional wives. Others are "inherited widows," the wives of male relatives who have died.

Intuitively, one would expect polygyny to increase birthrates because it facilitates the remarriage of widows and permits men to divorce sterile wives or take on additional, more fertile wives. But in African women polygyny does not appear to be associated with higher birthrates, provided childless (and thus possibly sterile) women are excluded from the analysis (97, 190). In Tanzania in 1973, polygynously married women age 20-29 had as many live births as monogamously married women, but women over age 30 in polygynous marriages had slightly fewer births (97). Furthermore, polygyny seems to be more common where infertility is a problem. Perhaps this is because polygyny facilitates divorce and remarriage, making it easier for fertile partners to find each other. On the other hand, divorce removes women from exposure to the risk of pregnancy, reducing their completed fertility. Also, the age difference between spouses means many women are widowed, again reducing their exposure to intercourse. For these reasons a polygynous society may be characterized by early marriage for women that is not necessarily reflected in the fertility rate.

Polygyny has been fairly common in many regions of sub-Saharan Africa. Surveys in the 1950s found that the proportion of men in polygynous marriages ranged from 12 percent in the Mbalmayo region of Cameroun to about 40 percent in Guinea (285). In the mid-1960s, about 33 percent of women in two major towns and five rural communities in western Nigeria (190) and 31 percent of women in Lagos were in polygynous marriages (185). In Ghana in 1960, 26 percent of married men had more than one wife (191), and in Tanzania in 1973, 30 percent of married women over age 30 were married to polygynous husbands (97).

High rates of separation and divorce, which may be related to infertility and facilitated by polygyny, also help to obscure any relationship between age at marriage and total fertility among African countries. Divorce, separation, and remarriage are associated with lower fertility for individual women. For instance, in all areas of mainland Tanzania outside Dar es Salaam, women age 40-49 who had been married more than once averaged two fewer live births than women of similar age who had married only once and were in monogamous marriages (97).

Separation and divorce are common in Africa. In Tanzania in 1973, 5 percent of women age 25-29 were separated or divorced and another 16 percent were currently married but not for the first time (97). Among women age 40-44, only 38 percent were in their first marriages and married monogamously; 25 percent had married more than once, 8 percent were separated or divorced, 18 percent were in polygynous marriages, 7 percent were widowed, and 2 percent had never married (97). In Ghana in the mid-1960s, 19 percent of rural women and 37 percent of urban women had been in two or more unions (200). In Chad in 1964, about one-quarter of married women had been married more than once (204). In Ibadan, Nigeria, in 1973, the figure was 15 percent of married women age 25-34 and 25 percent of those over 35 (94). These rates suggest that a substantial amount of time after first marriage may be spent outside of marriage, with a corresponding effect on completed fertility.

The combined effects of infertility, subfecundity, polygyny, separation, and divorce help to explain why an early age at marriage and very high fertility between age 15-19 does not lead to as high a total fertility rate as might be expected. The

lack of extensive family planning services in Africa means that modern methods of contraception are not available outside of a few cities. Thus, as might be expected for an area that is just beginning its demographic transition, what controls there are on population growth tend to be almost entirely the traditional ones — poor health, high mortality, breast-feeding, and abstinence.

Education

Socioeconomic factors are probably beginning to have a greater influence on African fertility but the impact of education, employment, and urbanization is not as clear-cut as in other parts of the world. For example, African women who have attended school tend to marry later than women who have never been to school, but fertility levels are not always related to school attendance. In many places, women with primary-level schooling have more children than either those with no education or those who have gone to secondary schools or universities. This may be because primary school attendance is often associated with better living conditions and less adherence to the traditional practice of abstinence for several years after childbearing. There may also be a methodological bias in that women who have attended school also are less likely to underreport births of children who died in infancy. As a consequence, although more education is linked to later marriage, neither later marriage nor more schooling substantially affects fertility levels.

Many surveys in Africa document the association between age at marriage and education. According to the 1973 Nigerian Migration Project surveys in Benin City, Kano, and Ibadan, women age 15-24 who had attended either Koranic school or primary school were less likely to have married than those who had no education. Those who had attended secondary school were even less likely to have married (94). Among Tanzanian women age 20-24, the proportion single rises from 2 percent for women with no education to 9 percent for those with five to eight years of school and reaches 17 percent for women with nine or more years of education. For those married, median age at first marriage among women with no education was 16.9 and among those with 9 to 13 years of education, 20.9 (97). Even in places where it is very common for women to marry and have children before age 20, longer schooling, especially "western-style," non-Islamic schooling, is associated with later marriage and childbearing. In Sokoto, Nigeria, women who had attended a girls' "western-style" boarding school were compared with women of the same age and social status who had not attended the boarding school but many of whom had received many years of Koranic education. Of the women with "western-style" education, 49 percent were married and 14 percent had been pregnant before age 16, while 94 percent of the women who had not attended the boarding school were married before 16 and 45 percent had become pregnant by that age (250).

Why women who have attended secondary school marry later and have their first children later is easily understood. School attendance is more difficult for young mothers and married women because of their household responsibilities. More importantly, many schools refuse to admit married women, even if childless, and most schools discourage their attendance. Studying may be less compatible with infant care than is the farm and market work usually performed by African women (175).

Later marriage and postponement of first birth associated with more education do not necessarily result in lower completed family size. The differences in fertility are usually largest in the early adult years and then diminish considerably or entirely by the time childbearing is completed (57, 184, 185, 186, 187). Data from the Nigerian Migration Project surveys illustrate the disappearance of the difference in fertility among older women. Among women age 15-24 in Ibadan, 77 percent of those who had attended secondary school had no children compared with 50 percent of those with Koranic or primary education and 38 percent of those with no schooling. Clearly, at those ages education was connected with delayed childbearing. Among women over age 35, however, 45 percent of those who had attended secondary school had five or more children compared with 63 percent of those with Koranic or primary school education and only 29 percent of women with no education.

Data from the Nigerian Migration Project illustrate a phenomenon common in Africa: completed family size is greater among those who have attended school than among those who have not, but among those who have attended school, longer school attendance is associated with lower completed family size. These relationships have been found in Tanzania (97) and Ghana (321) as well as Nigeria (94, 188). Since effective contraception was largely unavailable at the time of these studies in the 1960s and early 1970s, the relatively low fertility of uneducated women, contrary to the pattern seen in developed countries, may be due more to abstinence and to poor health that impairs fertility than to use of any intentional birth control techniques.

Occupations of Women

When young, unmarried women hold paying jobs outside the household, they often marry at an older age (50, 67, 68, 81, 135). Whether women who work for pay outside the household also bear fewer children has been studied extensively, but

In Cameroun, a wedding party dances on the highway. Travelers must present the bride with gifts before they are allowed to pass. (United Nations)

Sudanese Woman Trains as Midwife

A 26-year-old member of the Zande tribe, Catholic, married at 18, and now divorced, told Perdita Huston what sort of a husband she hopes for now and why she wants to be a midwife.

Do you have any children?

No.

Did you want to get divorced?

Yes, my husband was beating me, mistreating me. You know, sometimes if the husband has another wife he will mistreat you.

Did your husband have other wives?

Yes, there were two, but that was not so bad. It was just the husband who was not a good man.

Does your father have more than one wife?

No, only one.

How many brothers and sisters do you have?

Four brothers and two sisters. The eldest brother went to school until he finished technical school. The other brothers and sisters did not go to school at all.

If you married again someday, what qualities do you want to find in a husband?

I want my husband to be kind and a hard worker. I want him to look after the family at home.

And how many children would you like to have?

Four.

How are you going to keep from having more?

I will become too old.

Would you educate your daughters as much as your sons?

I would help the girls more because when they grow up the girls will be the only ones looking after me. My brother did not care for my mother, that's why I want girls. At least they will look after me just as I do for my mother. I wanted to become a midwife because my father and mother are old. My brothers and sisters had not been to school. They are only digging in the gardens. I thought it would be good to become a midwife so I could help my parents. I met some girls who had taken this course. I saw that they learned good things, that if someone becomes a midwife, it will help the country. That's why I have chosen it. Now I can help my country. (105)

there is little empirical evidence that women who are economically active delay or forego childbearing for that reason (218). Furthermore, while in many developing countries responsibility for child care sometimes constrains women's economic activity (230, 291), recent studies in Ghana, Kenya, and Nigeria have found no evidence that African women with more children were less likely to be working (218, 230). Although single women in urban areas are more likely to work outside the household and this may facilitate later marriage, the effect of this phenomenon on the number of children they bear has been negligible.

In sub-Saharan Africa, women perform most of the work required for food production (20). This is especially true where the agricultural system involves shifting "slash and burn" cultivation. Where the plow or other more modern or more intensive methods of working the land are used, or where the land produces a cash crop, the participation of women in agriculture varies more and generally is less. Nonetheless, women may still perform more than half the farm work in several regions of Africa (20).

Women also account for a large proportion of the labor force involved in trade in many parts of Africa, including Ghana, the Yoruba sections of Nigeria, and eastern Nigeria, where the Ibo predominate. Mostly women sell agricultural products, including vegetables, milk, eggs, and poultry (20, 153, 290). Trading is closely linked to women's role in agriculture and does not seem to provide an entrée to roles in modern commerce: "Given the high rate of illiteracy and the high average age of the market women, it was not to be expected that they would be recruited as shop assistants in the modern trade sector" (20). In the traditional division of women's labor by age, girls take care of younger children and do lighter work around the household; young women cook, prepare food, and take care of the crops; and older women take the extra produce to market (20). Although women who have migrated to the city, as well as long-time urban residents, continue to engage in petty trading, and some operate small shops, they do not predominate in either paid sales or large-scale trade positions. Younger women with more education tend to look down on farming and petty trading as an occupation and prefer office work, teaching, and nursing (20, 225, 290).

Nevertheless, labor force participation by African women has remained at high levels. Working for pay outside the household is common, particularly among young unmarried women in cities. For instance, according to a 1973-1974 survey conducted in Nigeria, approximately one-third of urban women age 20-24 and 12 percent of rural women that age worked for pay outside the household. More than half of single women age 20-24 — both urban and rural — worked outside the home for pay, but fewer than 20 percent of married women that age did so (218).

Although there are more opportunities to work for money outside the household in cities than in rural areas, in only a few countries is age at marriage clearly later in urban than in rural areas. Rural-urban differences in percentage ever-married at 15-19 or in mean age at marriage were negligible — less than 10 percentage points or less than a half year, respectively — in Ghana in the mid-1960s (200, 321, 328), in Liberia in 1971 (162), and in Tanzania in 1973 (97). Moreover, urban-rural differences are not consistent from country to country. For instance, in Zaire (1955-1957), more urban than rural women age 15-19 were married, and their higher fertility rate accounted for 40 percent of the total difference in urban over rural fertility. In Ghana (1960), marriage and fertility rates among 15-19 year old women were slightly lower in cities than in rural areas (192). One reason for these inconsistencies may be heavy rural-to-urban migration by African males, which would make it easier for urban women and harder for rural women to find husbands.

To conclude, although economic activity rates of women in Africa are high and young unmarried women in cities are particularly likely to be working outside of their households for money, there is little evidence that significant delays in marriage or lower fertility result in most African countries. In fact, women are expected to make substantial contributions to their own and their children's economic support; working for pay is part and parcel of child rearing rather than a competitive or conflicting activity. In the future, the importance of the kinship support system among women of all ages may decline. As

older daughters increasingly seek education, they will not be available to take care of the younger children, as they often do now. As a result, having young children may become more of a constraint on economic activity, and women may increasingly choose to delay first births for this reason.

LATIN AMERICA

Investigating age at marriage in Latin America is particularly difficult because many families are established by consensual union, without legal or religious sanction. Other unions are sanctioned religiously or legally or both. Early censuses often counted only legal marriages. Recently some countries, for example Brazil and Mexico, have counted people in religiously sanctioned marriages as "married" even if the unions were not legalized. Many countries have added a category to their census reports for "consensual unions," "de facto unions," or "free unions," in addition to the usual categories of marital status: single, married, separated, divorced, and widowed. Changes in reporting from one census to the next make data on trends in age at marriage unreliable.

Even where consensual unions are now officially counted, people fail to report them to census takers. Many people, especially men, prefer to state their legal status rather than their de facto status (174). Men's responses to census and survey questions about marital status generally reflect their attitudes concerning their responsibility for the support of a woman and her children. Unions in younger age groups are particularly underreported since relatively long-lasting consensual unions are more likely to be reported than are visiting relationships and ones recently begun. Consensual unions are sometimes legalized, but often only after years of cohabitation, sometimes interspersed with periods of maintaining separate residences. Concomitantly, many households are headed by women.

An example of the problem of underreporting comes from Colombia, where 1973 census data indicate 15 percent of women age 15-19 have been or are married, but the World Fertility Survey, which questioned individuals more closely, found 25 percent of this age group in unions in 1974 (52, 256). The failure to report consensual unions, along with variations in official reporting, make age at marriage data especially unreliable in Latin America. Using the data available, however, yields estimates that half of women marry by the time they are in their early 20s (273, 274, 275, 335, 336, 337).

The birth of a child may be a better indicator of a union than marriage as officially reported. In the six Latin American countries for which World Fertility Survey data are available, on average about 45 percent of women had their first children before or within 11 months after marriage (52, 70, 169, 195, 207, 313). All types of unions were counted as marriages in the surveys. In this section of this report, the age-specific fertility rate of women age 15-19 will be used to substitute for the percentage married at those ages since the former appears to reflect more accurately the prevalence of early unions.

Prevalence of Early Unions

The average proportion of women 15-19 reported as married in 30 Latin American countries where data have been collected since 1960 is only 17 percent (see Table 10) compared with over 50 percent in the Indian subcontinent and Africa. Although fewer women in this age group are reported married than in any other region except East Asia, early childbearing is not uncommon. The age-specific fertility rate for women 15-19 was 89, a rate substantially higher than the average in East Asia, almost as high as that in the Middle East, Southeast Asia, and the Indian subcontinent, but far below that in Africa. Age-specific fertility rates of women 15-19 are as high as 140 or more births per 1,000 women in Belize, El Salvador, Honduras, and St. Kitts-Nevis. Low rates — about 50 or less — are found only in Haiti, Martinique, and the Panama Canal Zone (see Table 10).

Low total fertility rates have been reached in a number of Latin American countries without the very low rates of early childbearing that have contributed so substantially to low total fertility rates in some Asian countries. Of the 13 Latin American countries or areas with total fertility rates of less than four, 10 have age-specific fertility rates for women 15-19 of more than 70, and two — Costa Rica and the US Virgin Islands — have rates of more than 100. Less surprising are the high early fertility rates in countries with high total fertility. Total fertility rates between 1970 and 1975 were above or near six in five Central American and two South American countries. Of these, only Bolivia had an age-specific fertility rate for women 15-19 of less than 100. (See Table 10* and Figure 12.)

Trends in Age at Marriage and Fertility

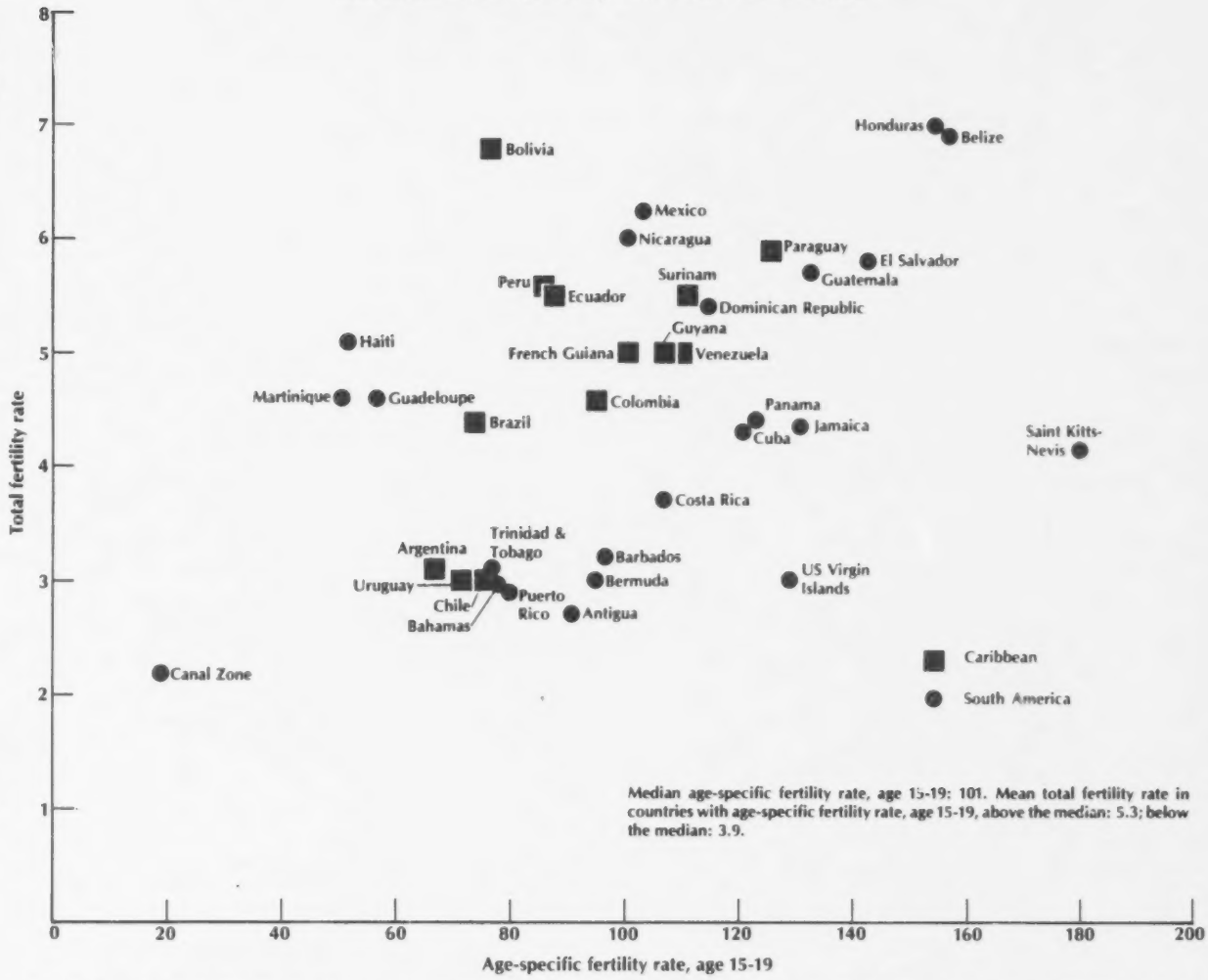
Two-fifths of all of the countries in this region for which data are available show declines in fertility among women age 15-19, while the remainder show little change (see Figures 13-15). Where fertility is falling among young women, total fertility rates also are falling. In several countries, however, as the analysis of prevalence suggests, total fertility is declining without any noticeable drop in the fertility of young women.

In Central America and the Caribbean, the fertility of women 15-19 has declined since about 1960 in nine of the 16 countries and areas for which data are available. In these nine areas — Barbados, the Dominican Republic, Guatemala, Haiti, Nicaragua, Panama, Puerto Rico, Trinidad and Tobago, and the US Virgin Islands — the total fertility rate is declining as well. In the remaining seven countries — the Bahamas, Costa Rica, El Salvador, Honduras, Jamaica, Martinique, and Mexico — the fertility rates of 15-19 year olds have not changed markedly. The Bahamas, Honduras, and Mexico also show little change in total fertility, but in Jamaica, Martinique, and El Salvador, some drop in total fertility occurred. In Costa Rica, the total fertility rate has dropped precipitously despite a virtually unchanging age-specific fertility rate among women 15-19 (see Figures 13 and 14).

In South America, fertility rates of women 15-19 have not changed markedly in most countries. Data are available for 11 of 13 nations. Six — Argentina, Bolivia, Chile, Ecuador, Paraguay, and Uruguay — show little or no recent downward trend in early fertility. Total fertility also has not changed in these countries, with the exception of Chile and Paraguay. Chile presents a dramatic contrast: total fertility has dropped

*Colombia, as shown in Table 10, appears to have the highest proportion married at age 15-19 in Latin America but low early and total fertility. The reported proportion married, drawn from the World Fertility Survey (52), may be higher than other national figures because unions of all types were carefully counted. The age-specific fertility rate for women 15-19 of 54 may be low because it was calculated by a method unlike that used for rates for other countries or in Colombia previously. The 1975-76 estimated fertility rate for women 15-19 was 94 (see Table A10, source code F129, in supplement listing data sources, available on request).

Figure 12. Fertility Rate by Percentage of Women Age 15-19 Ever-Married
Most Recent Available Comparable Data, Latin America



In Latin America, including the Caribbean, since age at marriage data are not reliable, the age-specific fertility rate for women 15-19 is used as an indicator of early unions. The relationship between early fertility and total fertility for South American countries (represented by squares) and Central American and Caribbean countries (represented by circles) show many variations and no obvious pattern.

40 percent in 15 years — from 5.1 in 1960 to 3.0 in 1975, while the age-specific fertility rate of women 15-19 remained virtually unchanged between 70 and 80 — a moderately high rate. The reason, of course, is substantial drops in the fertility of older women. In every age group of Chilean women over 30, fertility fell by more than 50 percent (see Table A11, p. M-154). In five South American countries — Brazil, Colombia, Guyana, Venezuela, and Peru — declines in both early fertility and total fertility have occurred (see Figure 15).

With a few exceptions, fertility declines among very young women have not contributed substantially to the total fertility declines of Latin American countries. In most countries 10 percent or less of the declines are attributable to women 15-19. Exceptions are Guyana, at 20 percent; Nicaragua, at 23 percent; Peru, at 22 percent; and the Dominican Republic, at 16 percent. When women 20-24 are considered as well, however, young women have made substantial contributions to fertility declines. Some 64 percent of the total fertility decline in Nicaragua is attributable to women under age 25; 63 percent in Peru; 50 percent in the US Virgin Islands; 44 percent in Guyana; and between 30 and 40 percent in Brazil, the Dominican Republic, Guatemala, Panama, Paraguay, Puerto Rico, Trinidad and Tobago, and Venezuela. (See Table 11.) Since the continuing high fertility rates of women age 15-19 suggest little trend toward later unions or later first births, these declines may be largely the result of increased use of birth control by women age 20-24 who have already had their first child.

Costa Rica

In Costa Rica since the early 1960s, the fertility of women 15-19 has declined only slightly. The insignificant change is like those for young women in many other Latin American countries. The total fertility rate, by contrast, has dropped dramatically — faster and farther than in any other country in the region. (Colombia is close behind.) (See Figures 13-15.) A look at Costa Rica's development, culture, and contraceptive usage suggests why the substantial fertility declines seen in older age groups have yet to appear among women under age 20.

Between 1963 and 1975, the age-specific fertility rate of women 15-19 fell by 10, from 117 births per 1,000 women to 107 — a decline of only 9 percent. During the same period, the fertility rates for women 20-24 declined by 119 births, or 36 percent, and, in age groups 25 to 39, by at least 130 births, or at

Table 10. Marriage, Fertility, and Socioeconomic Factors, Most Recent Available Data, Latin America

Region and Country	Year	% Females Age 15-19 Ever-Married	Rank Order	Source Code[a]	Year	ASFR Age 15-19	Rank Order	TFR	Rank Order	Source Code[a]	Year	% Females in School at 1st & 2nd Levels[b]	Rank Order	Year	% Females Age 20-24 Economically Active[c]	Rank Order	% Urban[d]	Rank Order
CENTRAL AMERICA & CARIBBEAN																		
Martinique	1967	2	1	M118	1970	51	1	4.6	9	F212	1975	101	2	1967	49	5	NA	
Guadeloupe	1967	5	2	M112	1970	57	3	4.6	9	F178	1975	102	1	1974	40	7	NA	
British Virgin Islands	1970	6	3	M103	1960	147	17	7.4	18	F118		NA			NA		NA	
Haiti	1971	6	3	M115	1973	52	2	5.1	11	F194	1971	24	14	1971	75	3	20	11
Bahamas	1970	10	5	M100	1974	78	4	3.0	2	F100		NA		1970	72	4	58	2
St. Pierre	1974	11	6	M125		NA		NA				NA		1974	43[e]	6	NA	
Bermuda	1960	12	7	M101	1965	95	6	3.0	2	F113		NA		1976	79	2	NA	
Costa Rica	1973	15	8	M106	1975	107	9	3.7	5	F143	1976	81	6	1973	30	12	46	4
Dominican Rep.	1974	16	9	M108	1973-74	113	10	5.4	12	F166	1974	72	9	1970	29	13	40	6
Puerto Rico	1970	16	9	M124	1974	80	5	2.9	1	F245	1975	82	5	1978	34	11	NA	
US Virgin Islands	1960	16	9	M127	1974	129	13	3.0	2	F255		NA			NA		NA	
El Salvador	1971	21	12	M110	1973	143	16	5.8	14	F173	1976	63	10	1971	36	10	39	7
Mexico	1975	21	12	M119	1973-75	105	8	6.2	16	F218A	1976	78	8	1978	37	9	59	1
Nicaragua	1971	23	14	M120	1970-71	101	7	6.0	15	F220	1973	56	11	1971	26	14	46	4
Jamaica	1970	25	15	M117	1976	130	14	4.3	6	F209	1975	81	6	1977	81	1	37	8
Panama	1970	27	16	M121	1975	123	12	4.4	8	F224	1976	92	3	1970	40	7	48	3
Guatemala	1973	29	17	M113	1973	133	15	5.7	13	F189A	1970	33	13	1973	17	15	34	9
Cuba	1970	30	18	M107	1965-70	121	11	4.3	6	F146	1975	83	4	1970	25	16	NA	
Honduras	1971-72	31	19	M116	1975	154	18	7.0	17	F201	1975	55	12	1974	20	17	26	10
Antigua		NA			1974	91		2.7		F93		NA		1970	68		NA	
Barbados		NA			1973	97		3.2		F111	1976	94		1970	68		4	
Belize		NA			1971	157		6.9		F112		NA		1970	31		NA	
Panama Canal Zone		NA			1970	19		2.2		F225		NA		1970	43[f]		NA	
St. Kitts-Nevis		NA			1974	180		4.3		F246		NA			NA		NA	
Trinidad & Tobago		NA			1975	77		3.1		F251	1973	62		1970	38		12	
Unweighted mean		17				106		4.7				72			45		36	
Weighted mean[g]		21				107		5.9				72			36		51	

SOUTH AMERICA																
French Guiana	1967	3	1	M111	1967	101	8	5.0	6	F174		NA		1974	64	1	NA	
Uruguay	1963	10	2	M126	1975	72	[b]	3.0	1	F253	1974	81	3	1975	43	4	78	2
Chile	1971	12	3	M104	1975	74	4	3.0	1	F122	1975	96	1	1970	32	6	76	3
Paraguay	1972	12	3	M122	1972	126	11	5.9	11	F227	1974	64	10	1972	31	8	37	9
Argentina	1970	13	5	M99	1970	67	2	3.1	3	F97	1976	89	2	1977	47	2	80	1
Brazil	1970	13	5	M102	1976	74	4	4.4	5	F117B	1974	69	9	1973	46	3	56	6
Venezuela	1971	17	7	M128	1974	109	10	5.0	6	F268	1976	74	5	1977	35	5	76	3
Peru	1972	19	8	M123	1976	87	6	5.6	10	F230A	1976	81	3	1972	26	9	52	7
Ecuador	1974	21	9	M109	1974	88	7	5.5	9	F168	1976	73	6	1974	22	11	38	8
Guyana	1960	23	10	M114	1970	108	9	5.0	6	F192	1973	70	8	1970	26	9	30	10
Colombia	1974	25	11	M105	1978	54	1	3.9	4	F130	1975	72	7	1973	32	6	62	5
Bolivia		NA			1975	77		6.8		F115	1976	59		1976	25[e]		29	
Surinam		NA			1970	111		5.5		F248	1975	71		1975	34[h]		NA	
Unweighted mean		15				91		4.8				75			36		56	
Weighted mean[g]		15				80		4.4				75			40		60	
ALL COUNTRIES																		
Unweighted mean		15				101		4.7				74			40		45	
Weighted mean[g]		17				89		4.9				73			39		57	

NA = not available

[a]Codes refer to source information listed in Table A10 of supplement, available on request.

[b]Source: UNESCO (267) Table 1. The gross school enrollment ratio at the first and second levels is the total enrollment of pupils of all ages at those two levels divided by the population of official school ages for those two levels. For countries with nearly universal education of the school-age population at the first level, the gross enrollment ratio will exceed 100 if many pupils are older than the official school ages. Second-level schooling includes general education, teacher training, and other secondary-level vocational-technical training. All ratios are expressed as percentages.

[c]Source: International Labour Office (120) Table 1 or (122) Table 1 unless otherwise noted. Economically active population defined as employers, the self-employed, employees, unpaid family workers, members of producers' cooperatives, members of the armed forces, and unemployed persons with previous job experience.

[d]Source: 1970 data from World Bank (294) p. 510-513. Percentage of the population living in urban areas, generally defined as cities and towns; national definitions vary.

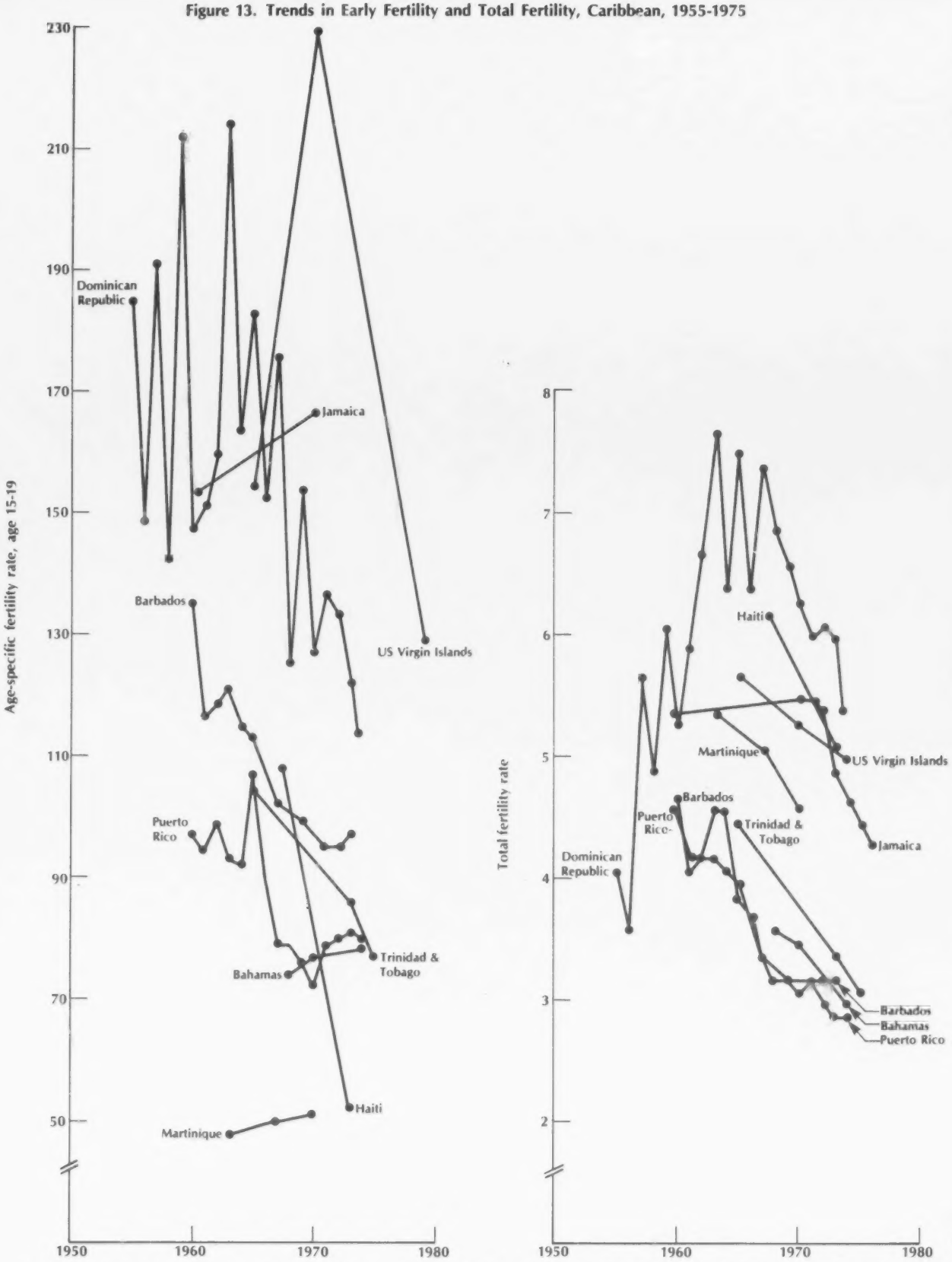
[e]Age 20-29

[f]Age 18-24

[g]Mean weighted by 1975 population as reported in US Bureau of the Census (280).

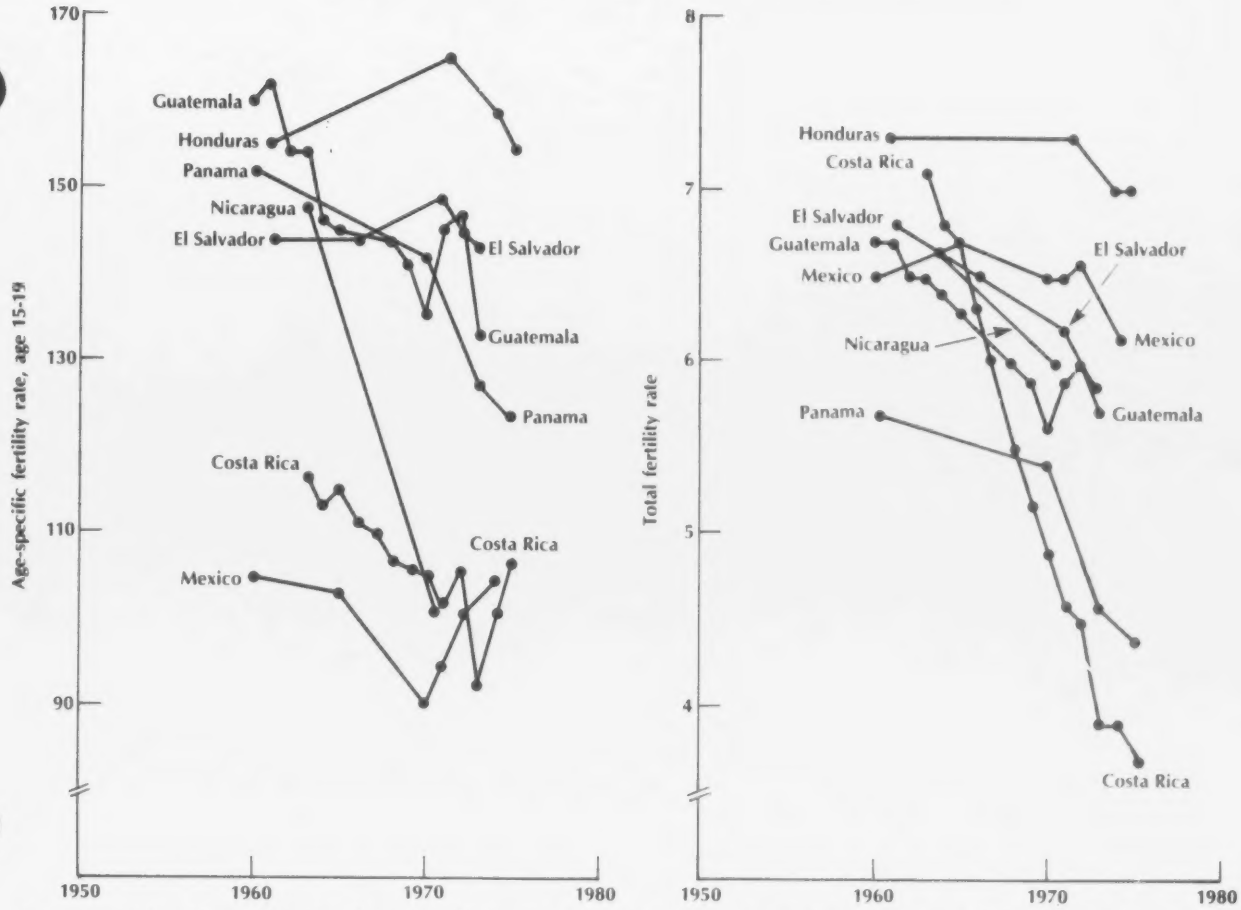
[h]Source: International Labour Office (122) Special Table. ILO projection for midyear 1975.

Figure 13. Trends in Early Fertility and Total Fertility, Caribbean, 1955-1975



In the Caribbean, as elsewhere in Latin America, the age-specific fertility rate for women 15-19 is used as an indicator of age at marriage rather than unreliable data on the proportion of women 15-19 ever-married. Where the age-specific fertility rate of women 15-19 has dropped—Barbados, the Dominican Republic, Haiti, Puerto Rico, Trinidad and Tobago, and the US Virgin Islands—the total fertility rate has also dropped. Among countries where early fertility has not changed—the Bahamas and Martinique—total fertility has declined.

Figure 14. Trends in Early Fertility and Total Fertility, Central America, 1960-1975



In most countries of Central America, the age-specific fertility of women 15-19 and the total fertility rate have changed little. In Panama and Guatemala, early fertility is declining and so is total fertility. In Costa Rica, total fertility has fallen sharply despite a virtually unchanging fertility rate among 15-19 year olds. Since the early 1970s total fertility in Mexico has declined sharply.

least 50 percent. As a result, the total fertility rate plummeted from 7.1 in 1963 to 3.7 in 1975 (see Table A11, p. M-154).

The drop in total fertility in Costa Rica is comparable to the rapid drops which have taken place in South Korea, Taiwan, and Singapore (see Figure 5). Total fertility rates of these countries in 1975 were 3.7 in Korea — the same as in Costa Rica — 2.8 in Taiwan and 2.1 in Singapore in 1977 (see Tables 3 and A3, in supplement). Costa Rica, however, reported 15 percent of 15-19 year olds married in 1973 (see Table 10), while Korea reported only 3 percent in 1974; Taiwan, 6 percent in 1975; and Singapore, 5 percent in 1970 (see Table 3). The 1975 age-specific fertility rate of 15-19 year olds in Costa Rica was considerably higher than in these Asian countries — 107 compared with 8 in Korea, 37 in Taiwan, and 17 in Singapore. (In fact, the age-specific fertility rate of 15-19 year olds is so high that it suggests that the percentage married figure is an underestimate of early unions.)

Why is early fertility still so much higher in Costa Rica than in these Asian countries? It is not easy to answer this question. Many of the factors that appear to encourage both later marriage and lower total fertility are present to some extent in Costa Rica — opportunities for women to attend school, jobs for young women that are incompatible with marriage, and uneven sex ratios in urban and rural areas. Measures of female school enrollment and economic activity in Costa Rica are not exceptional for the region, however, and stand near the medians (see Table 10). The female school enrollment rate in Costa Rica, at 81 percent, is similar to rates found in Asian countries where early fertility has declined substantially and women marry late.

With 46 percent of the population living in urban areas, Costa Rica is slightly more urbanized than most countries and areas of Central America and the Caribbean. It ranks fourth among 10 countries and areas for which urbanization and age at marriage data are available (see Table 10). The pattern of residence and work in Costa Rica make it more urban in character than this figure suggests. Some villages function in effect as suburbs; many of their residents work in cities or in nonagricultural jobs (82, 86). In substantial numbers young women, especially those age 15-25, migrate from rural to urban areas seeking work. The result is skewed sex ratios: more men than women of marriage age in rural areas, and the reverse in the cities.

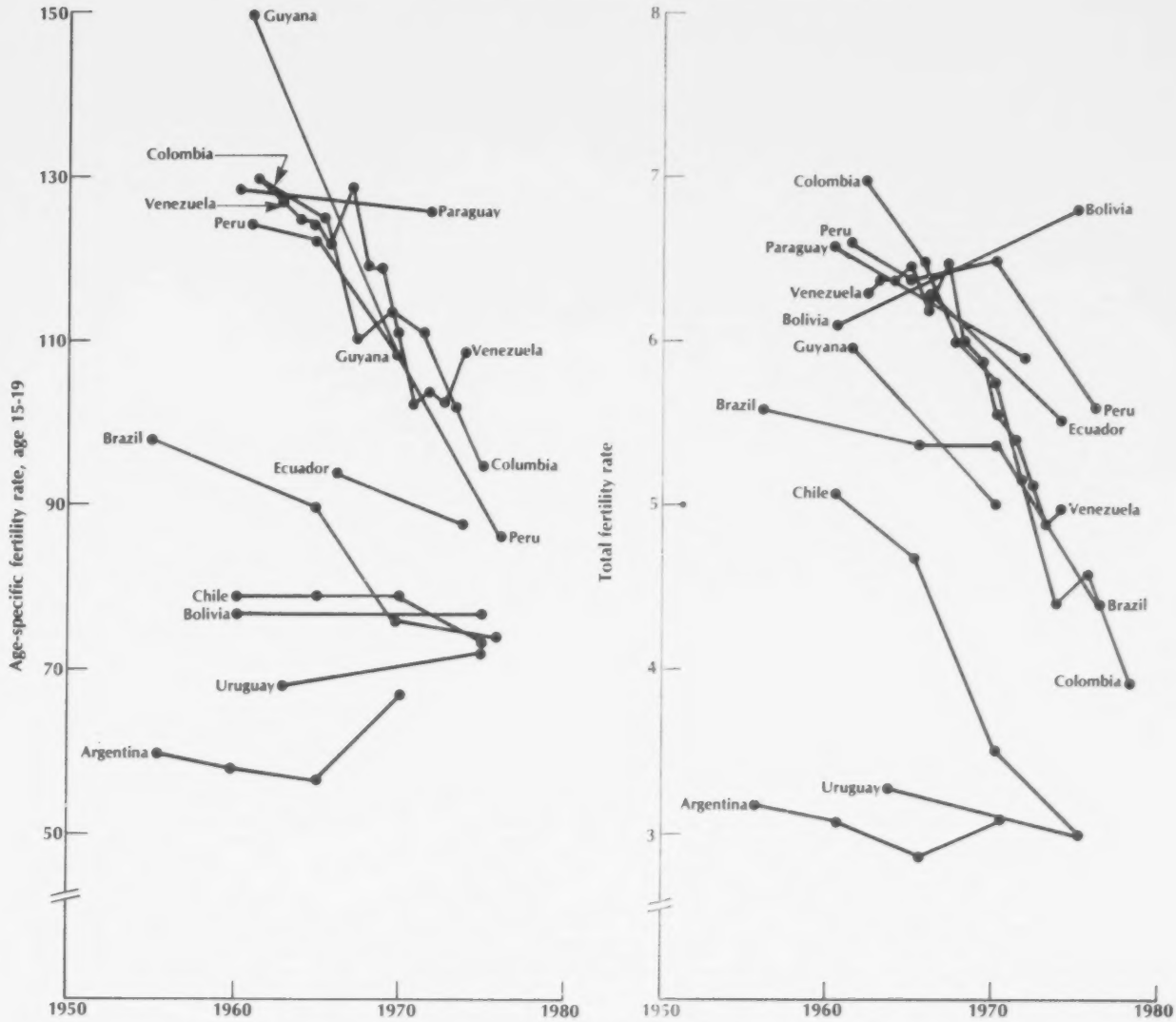
The young women who move to towns and cities often seek work as domestic servants. In 1973, over half of all economically active women were service workers (120). This pattern, common in Latin America, seems advantageous both to young women and to their rural families. Domestic service offers a young woman the opportunity to move to the city and gain some independence from her family. For their part, her parents know that their daughter's basic needs will be met by the

people she works for and that she will be more secure than she would be living alone. Domestic service is not a life-long employment, however. It offers little opportunity for upward mobility and it pays poorly. Most women work as servants for less than 10 years, then marry (61, 127, 339). Further, domestic service is incompatible with marriage and child raising, and, when they become pregnant, women working as servants frequently obtain abortions (288).

Data from the Costa Rica World Fertility Survey explain better than these socioeconomic variables why early fertility remains relatively high while later fertility has dropped markedly (313). In Costa Rica the overall rate of premarital conceptions is over 26 percent — more than double the rate of any Asian country and the second highest of any Latin American country with published World Fertility Survey data (134) (see Table 2). While the proportion of women reporting premarital conceptions rises with age at marriage, a substantial portion of women who married young conceived their first child before marriage — almost 20 percent of those who married at age 18-19. In other words, many Costa Rican women begin sexual activity at an early age and marry (or report themselves to be living in unions) only after they become pregnant or have a child. Thus, almost half of all ever-married women age 20-24 report at least two live births (313).

Women in Costa Rica are quick to adopt contraception after one or two pregnancies, however. Among 20-24 year old women currently living in unions who had two living children, only 6 percent were pregnant when interviewed for the World Fertility Survey and 75 percent were using contraception. Of those with one child, 14 percent were pregnant and 68 percent were using contraception (313). By contrast, among married Korean women of comparable age and number of living

Figure 15. Trends in Early Fertility and Total Fertility, South America, 1960-1974



Most countries of South America fall into one of two groups: those with initially high but rapidly declining early fertility rates or those with lower but little changed early fertility rates. Total fertility rates are declining in the former group, while in the latter, they are not. The exceptions in the latter group are Chile and Paraguay, with little change in early fertility but drops in total fertility.

Table 11. Contributions to Declines in Fertility by Women of Various Age Groups in Selected Countries of Latin America, 1960s and 1970s

Country or Area	Source Code	Years	Total Fertility Rates (TFRs)	Decline in TFR	% of Decline Attributable to Women Aged				
					15-19	20-24	25-34	35-49	All ages
CENTRAL AMERICA & CARIBBEAN									
Bahamas	F98, F100	1968-1974	3.6 - 3.0	0.6	*	25	43	36	100
Barbados	F106, F111	1965-1973	4.0 - 3.2	0.8	10	9	36	46	100
Costa Rica	F131, F143	1963-1975	7.1 - 3.7	3.4	1	18	52	29	100
Dominican Republic	F159, F166	1967-1974	7.4 - 4.8	2.0	16	14	42	28	100
El Salvador	F169, F173	1961-1973	6.8 - 5.8	1.0	1	18	69	12	100
Guadeloupe	F176, F178	1963-1970	5.8 - 4.6	0.8	1	11	47	42	100
Guatemala	F183, F190	1964-1973	6.4 - 5.7	0.7	10	25	39	26	100
Martinique	F210, F212	1963-1970	5.4 - 4.6	0.8	*	*	36	64	100
Nicaragua	F219, F220	1963-1970/71	6.7 - 6.0	0.7	23	42	35	*	100
Panama	F222, F224	1969/71-1975	5.4 - 4.4	1.0	9	25	42	23	100
Puerto Rico	F237, F245	1966-1974	3.7 - 2.9	0.8	6	29	26	39	100
Trinidad & Tobago	F249, F251	1965-1975	4.5 - 3.1	1.4	10	23	44	23	100
US Virgin Islands	F253, F255	1965-1974	5.7 - 3.0	2.7	5	45	41	9	100
SOUTH AMERICA									
Brazil	F117A, F117B	1970-1976	5.4 - 4.4	1.0	1	36	36	27	100
Chile	F120, F122	1965-1975	4.7 - 3.0	1.7	2	13	52	33	100
Colombia	F123, F126	1960/64-1969/70	7.0 - 5.8	1.2	6	13	58	23	100
	F126, F129	1969/70-1975/76	5.8 - 4.6	1.2	8	22	43	27	100
	F123, F129	1960/64-1975/76	7.0 - 4.6	2.4	7	18	50	25	100
Guyana	F191, F192	1961-1970	6.0 - 5.0	1.0	20	24	41	14	100
Paraguay	F226, F227	1960-1972	6.6 - 5.9	0.7	2	31	47	20	100
Peru	F229, F230A	1965-1975	6.4 - 5.6	0.8	22	41	26	11	100
Venezuela	F259, F268	1965-1974	6.5 - 5.0	1.5	6	28	46	20	100

Note: Table includes only countries or areas with available data experiencing declines in total fertility exceeding 0.3. Of 25 countries or areas with reliable data, 19 experienced decreases greater than 0.3; 4 experienced decreases of less than 0.3 or no change; and 2 experienced increases. For age-specific fertility rates in these countries, see Table A11, p. M-154.

*Fertility in this age group increased; see Table A11, p. M-154.

children, pregnancy was more common and contraceptive use far less common. Of currently married 20-24 year olds with two children, 14 percent were pregnant and only 24 percent were using contraceptives; of those with one child, 16 percent were pregnant and only 12 percent were using contraceptives (139).

This pattern of early sexual activity and childbearing followed rather rapidly by contraceptive use may be evolving out of conflicting forces common in Latin America. On one hand is cultural and social pressure on young women to prove themselves and perhaps obtain a husband by having children early. These pressures are reinforced by traditional attitudes that value innocence of sexual matters — including contraception — in young women but value sexual prowess and experience in young men. In addition, the disapproval by the Catholic Church of any birth control method other than periodic abstinence may restrict young women's use of effective contraceptives like the pill (216, 232). On the other hand is economic pressure on young women to control their fertility in order to assure for themselves and their children the reasonable standard of living that is becoming increasingly possible for those with few children. This pressure would seem especially apparent to women in consensual unions, where the woman is almost always responsible for her own support and for the support of her children, who usually live with her or are cared for by her female relatives (178, 206).

Two Mexican Sisters Tell about Marriage

In a Zapotec Indian village two married sisters told Perdita Huston what marriage and fertility mean to them:

Tell me, at what age did you marry?

Nineteen. (Maria-Louisa)

Seventeen. (Sophia)

And how did you meet your husbands?

We knew each other in school. Then afterwards, when we left school we would see them when we went out to do errands. At the river, when we did the washing, we would see them. The boys would happen to be there and we would talk with them . . .

Maria-Louisa explained:

One day my husband just asked me to come and live with him so I packed my things and went to his house, with his parents. I was lucky because I married soon; my mother-in-law liked me very much. She told my husband, "You should marry this girl." Within a year we were married.

Her situation was different, Sophia said:

My mother-in-law didn't like me. She didn't want us to get together so she made a lot of trouble. She wouldn't give me anything to eat; she wanted to starve me out of the house. After the first child was born I left and came back to my mother's house. My husband waited for five years to come and get me. After another year we got married.

How many children do you have now?

Seven.

And you, Maria-Louisa?

Ten in all. Six are still in the house; three have married; another died of measles.

Do you want to have more children?

No, life is too difficult now.

Then what do you think is a good number of children to have per family?

If I could choose I would say one or two. Now I know there is a way of choosing but I didn't know that before, so what good does it do anymore? Look at us, how old we look at just 40 years. That is because we have to work so hard for all these children. And there isn't enough food for all of us. If I had known in 1960 what I know now, I wouldn't have had all those children. And my husband would agree, I know.

Do you ever mention that to your husband?

Yes, I've said, "Listen, if only we had known before, we could have done something but now — it is too late!" What can we do?

Do you think that most husbands in this village would permit their wives to control the number of pregnancies?

Heavens, no. Few would even think of it. They say terrible things about women who want it. Some say, "The only reason you want birth control is so you can come and go, and go with other men." They think we will just go and do it with another man . . . like that . . . for no good reason. (105)

Costa Rica's total fertility decline has been accelerated by the wide availability of contraceptives through an extensive national family planning and maternal/child health program. Two of every five women exposed to pregnancy and not relying on sterilization receive contraceptives through the program. Less than 5 percent of the program users, however, are aged 15-19 (212). The program does not exclude young or unmarried women, but the association of family planning with maternal and child health centers may create the impression that family planning is appropriate only for women who have had children. In addition, national advertising for the program is aimed at women with children (324). Commercial sources of contraceptive supplies, which might be more readily utilized by unmarried women, could not officially provide oral contraceptives without prescription before 1975 (232), thus further inhibiting the access of young women to effective contraception.

Young, unmarried women in many Latin American countries face special difficulty obtaining contraceptives even while their incentive to control fertility is strong. The result is reflected in abortion statistics. A 1968-71 study of five cities found that abortion ratios (abortions to live births) were considerably higher for single women than for married women and were highest among women age 15-19 (83). Also, abortion rates (abortions per 1,000 women) during the period increased most rapidly among women age 15-19 (83, 288).

In the mid-1970s Costa Rica's family planning program recognized the need to educate young women about sexuality and contraceptive use even before they become mothers. Among the objectives of the National Family Planning and Sex Education Program is the addition of sex education to the curricula of primary and secondary schools:

> To carry out integral sexual education programs, as an essential part of the basic education of all individuals, hence not limited to a simple impersonal instruction at the level of genital anatomy and procreation physiology, but extended to the ample and inevitable psychological, familial, ethical, physiological, anthropological, demographic and spiritual problem covered and demanded by sexuality (268).

In short, the meager decline in fertility among 15-19 year olds in Costa Rica, which is typical of much of Latin America, may stem from the pattern of early consensual unions and childbearing plus the lack of adequate family planning services for unmarried women. In a sense, having a first child may be the admission ticket to maternal and child health services that provide family planning. Latin American women, many of whom bear much of the burden for child support themselves, are keenly aware of the economic and social pressures that child rearing imposes and turn to fertility control as soon as it is available.

OVERVIEW OF REGIONAL DATA

The first and most obvious conclusion to be drawn from this overview of age at marriage and fertility is that both age at marriage and total fertility rates differ greatly from one part of the world to another — and indeed from one country to another. It is also clear that the relationship between age at marriage and fertility is different in different parts of the world — and, again, in different countries and even within countries — depending on other demographic factors, definitions of marriage, prevailing cultural patterns, socioeconomic changes, and use of birth control methods.

In general, as Table 1 shows (see p. M-106), East Asia has by far the lowest prevalence of early marriage and the lowest fertility as well as the highest percentages of women economically active (at ages 20-24) or in school and the highest percentage of population in urban areas. Latin America ranks second in every respect except economic activity of women, where Africa is second. With respect to other variables, Africa has the second highest prevalence of early marriage, close to that of the Indian subcontinent, the highest early and total fertility rates, and the lowest percentage of women in school and of urban population. Unfortunately much of the African data are less current than data from Asia and Latin America.

Other interregional comparisons are more tenuous. On the whole, the Middle East has slightly higher total fertility than might be expected from a relatively high age at marriage, whereas the Indian subcontinent, especially India itself, has somewhat lower total fertility than might be expected from a relatively early age at marriage. The somewhat lower than expected fertility in relation to age at marriage in the Indian subcontinent and in relation to socioeconomic factors in Southeast Asia may well be due to extensive family planning programs, while the higher than expected fertility in the Middle East may be due to severely restricted economic opportunities for women.

Within each region, of course, there are exceptions, such as Sri Lanka, which is closer to the East Asian pattern than to the rest of the Indian region. The African island state of Mauritius, which is not included in the tabulations for Africa, has fertility levels comparable to those of East Asia (201).

Among 80 developing countries of over one million population with data available on trends in fertility and marriage, there are 26 countries where total fertility has declined appreciably† (166; also see Tables A5, A7, and A11, pp. M-153–M-155).

East Asia	Indian Subcontinent	Latin America
China	**India**	*Brazil
***Hong Kong**	***Sri Lanka**	Chile
South Korea	Middle East	Colombia
Taiwan	**Iran**	Costa Rica
Southeast Asia	***Tunisia**	Cuba
***Indonesia**	**Turkey**	*Dominican Republic
***Malaysia**		*El Salvador
***Philippines**		Jamaica
***Singapore**		*Panama
Thailand		*Peru
		*Trinidad and Tobago
		*Venezuela

Boldface: substantial change in proportion ever-married at age 15-19 or at age 20-24, or proportion married at these ages already low.
Asterisk (*): substantial declines in fertility among those age 15-19 or 20-24.

Among these 26 countries, 13 have also experienced recent increases in age at marriage or, like Taiwan and Korea, have already reached a high age at marriage (that is, less than 10 percent married before age 20). These countries are listed above in darker type. In 7 of these 13 countries, declining fertility among women either 15-19 or 20-24 has contributed significantly to the drop in total fertility, confirming the impact of a higher age at marriage in curbing population growth. These seven countries in darker type are marked by an asterisk. (Data on China and Iran are not available.) In two countries — India and Turkey — age at marriage has risen, but fertility declines among young women are minimal.

†Appreciable total fertility decline as determined by Mauldin and Berelson (166) or more recent data showing decline of greater than 0.3.

In the 13 countries listed above that are not in darker type, which include 12 Latin American areas and Thailand, total fertility has declined even though age at marriage has not increased recently. In 7 of these 12 Latin American areas, fertility among women 15-19 or 20-24 fell substantially. The seven are Brazil, the Dominican Republic, El Salvador, Panama, Peru, Trinidad and Tobago, and Venezuela. These also are marked with an asterisk. In three Latin American countries — Chile, Colombia, and Costa Rica — substantial fertility declines have occurred without important contributions from young women. In Thailand, few women marry young, but early fertility is moderately high and has not changed much.

Even where falling fertility rates among young women have contributed substantially to total fertility declines, the fertility rates of older women have dropped faster than those of young women. Only in four Asian, two Middle Eastern, and three Latin American countries has the fertility of young women declined as fast or faster than that of women over 25. These nine countries are:

Hong Kong	Tunisia	Brazil
Malaysia	Turkey	Panama
Philippines		Peru
Sri Lanka		

Age at marriage has risen in these countries, except perhaps in Peru and Panama, where data are not reliable. (Age-specific fertility trends are not available for Cuba, Jamaica, and Iran.)

The 13 countries in which fertility has declined more among older women are:

Indonesia	India	Chile
Singapore		Colombia
South Korea		Costa Rica
Taiwan		Dominican Republic
Thailand		El Salvador
		Trinidad and Tobago
		Venezuela

What distinguishes the 9 countries with more rapid fertility declines among young women from the 13 countries with more rapid declines among older women? Do measures of the quality of life, of opportunities for women, or of government policies affecting women differentiate these two groups of countries? For the most part, no. The proportions of countries with a given attribute are roughly equal in the two groups when rated for a number of factors thought to favor rising age at marriage or declining fertility: heavy out-migration of either males or females, low infant mortality, high rates of urbanization, high rates of female school enrollment or economic activity at age 20-24, and a legal minimum age at marriage of 16 or above (121, 122, 267, 280, 294, 343, 349).

While all countries in both groups now have national family planning programs, there is a difference between programs in the two sets of countries. The countries where fertility has declined faster among *older* women are more likely to have family planning programs which started before 1970 and were rated by Parker Mauldin and Bernard Berelson as moderate or strong (166). While five of the nine countries with larger fertility declines among young women had moderate or strong programs, 12 of the 13 countries with larger fertility declines among older women had such programs. This is not surprising. Most family planning programs have concentrated on serving older women who have had all the children they want. Moreover, as noted, most of the programs in Latin America offer family

planning services together with maternal and child health services, which stress the needs of older, high parity, high risk mothers.

There are six countries where fertility has remained stationary at high levels even though age at marriage is rising. They are Bangladesh, Kuwait (Kuwaiti women only), Morocco, Pakistan, Syria, and Haiti. Family planning programs in these countries as of the early 1970s were either nonexistent or sparse in implementation, according to Mauldin and Berelson's ratings (166).

In the other countries for which data are available, no changes in age at marriage or fertility have been identified.

Table 12. The Effect of Socioeconomic Factors on Age at Marriage: Mean Percentage of Women Age 15-19 Ever-Married in Countries with High and Low Rates[1] for Three Socioeconomic Factors, by Region

	Median	Mean % of Women Age 15-19 Ever-Married in Countries with: High Rates	Low Rates[1]	Difference
ASIA				
Schooling[2] (N=13)	64%	6	37	31
Economically Active[3] (N=14)	42%	6	39	33
Urbanization[4] (N=14)	22%	6	39	33
MIDDLE EAST				
Schooling (N=15)	34%	25	44	19
Economically Active (N=15)	12%	26	39	13
Urbanization[5] (N=13)	35%	31	44	13
AFRICA				
Schooling (N=28)	14%	40	61	21
Economically Active (N=28)	56%	49	56	7
Urbanization (N=22)	11%	47	51	4
LATIN AMERICA[6]				
Schooling (N=23)	72%	15	17	2
Economically Active (N=25)	46%	13	19	6
Urbanization (N=20)	46%	16	18	2
TOTAL				
Schooling (N=79)	46%	15	51	36
Economically Active (N=82)	37%	29	35	6
Urbanization (N=69)	30%	20	46	26

[1]High rates for socioeconomic factors are those above the regional median; low rates are those on or below the regional median. Calculations utilize most recent comparable data for each country on school enrollment, economic activity, urbanization on one hand and percentage of women age 15-19 ever-married on the other.

[2]Gross female school enrollment ratio at the first and second levels. This is the total enrollment of female pupils of all ages at the first and second levels divided by the female population of official school ages for those two levels. Second-level schooling includes general education, teacher training, and other secondary-level vocational-technical training. All ratios are expressed as percentages.

[3]Percentage of women age 20-24 economically active. The International Labour Office defines the economically active population as employers, the self-employed, employees, unpaid family workers, members of producers' cooperatives, members of the armed forces, and unemployed persons with previous job experience.

[4]Percentage of the population living in urban areas, generally defined as cities and towns; national definitions vary.

[5]Data on socioeconomic factor and percentage of women age 15-19 ever-married not available for comparable years from over half of the countries.

[6]The data on proportion of women age 15-19 ever-married in Latin America are not a reliable indicator of the prevalence of unions. Using the age-specific fertility rate of women age 15-19 as an indicator, the mean age-specific fertility rate of women age 15-19 in countries with high rates of school enrollment is 93, with low rates, 103 (N=28); with high rates of economic activity, 86; with low rates, 108 (N=33); with high rates of urbanization, 87; with low rates, 121 (N=33).

Another way to try to determine how the different factors reviewed in this report (school enrollment of women, economic activity of women, and percentage of the population in urban areas) have influenced age at marriage and total fertility rates is through Tables 12 and 13. Both tables divide the countries in each region into those that rank above and below the median value for the whole region with respect to each factor considered. From the tables it is possible to see, in the right-hand column, how much difference each of the factors makes either to age at marriage (see Table 12) or to total fertility rates (see Table 13).

All three factors generally associated with age at marriage — education of women, female economic activity, and urbanization — make about the same difference in Asia and the Middle East. In Africa, female school enrollment rates are linked to age at marriage but economic activity and urbanization are not. In Latin America, age at marriage differs little between countries regardless of differences in these factors. When early fertility rates are used as an index of early unions, urbanization and economic activity both make a difference. For the four regions together, education accounts for the greatest differences in age at marriage, followed by urbanization, while economic activity makes very little difference. (See Table 12.)

Table 13 considers the same three socioeconomic factors plus age at marriage to see which of these four factors make appreciable differences in total fertility rates in each of the four regions. In Asia, all four factors are about equally related to differences in fertility; in the Middle East, age at marriage and schooling are associated with fertility differences between countries, but the association is not as strong as in Asia. Economic activity rates and urbanization are not obviously related to overall fertility in the Middle East. In Africa, both a high age at marriage and a high percentage of women employed are associated with higher, not, as might have been expected, with lower fertility, while neither urbanization nor schooling is associated with differences in fertility rates; in Latin America, schooling and economic activity rates are most strongly associated with fertility differences between countries, while age at marriage and urbanization make less difference. The fertility rates of 15-19 year olds, used as an index of early unions, make about as much difference to total fertility in Latin America as education and economic activity.

LAW AND POLICY

Knowing which socioeconomic factors are associated with lower fertility or with later marriage within a region may be of particular value to policy makers considering policy options. A lack of association, however, may not mean that a policy advocating change would not be successful; often a lack of association is simply the result of lack of change, as in Africa. Yet there is still very little information to answer the specific questions policy makers and legislators ask: Will increases in age at marriage reduce fertility within a given time period in my country? Is marriage reform legislation an effective way to raise actual age at marriage? And finally, what, if any, are the political costs or constraints involved in raising the legal age at marriage?

In a 1974 review of the policy relevance of social science research, William P. McGreevey and Nancy Birdsall concluded that research on the impact upon fertility of age at

marriage or type of marriage was inadequate. Attempts to translate any of the research findings into viable public policies with predictable results, time schedules, or costs were virtually nonexistent (167). With respect to research on age at marriage, that situation is little changed today.

Clearly there is no single route either to lower fertility or to later marriage as an important determinant of lower fertility. China, for example, which offers the best instance of deliberate government intervention to raise age at marriage and to lower fertility, did not experience either large out-migration of males or rapid urbanization, which were associated with increasing age at marriage and declining fertility in Korea and Tunisia. In Malaysia and Sri Lanka, where later marriage contributed substantially to lower fertility, there was little active government support for late marriage or equality for women. In many Latin American countries where fertility has declined, there has been little apparent delay in marriage or reduction in fertility of women under 20, despite high levels of school enrollment among women.

Table 13. The Effect of Age at Marriage and Socioeconomic Factors on Fertility: Mean Total Fertility Rates (TFR) in Countries with High and Low Age at Marriage and High and Low Rates[1] for Three Socioeconomic Factors, by Region

		Mean TFR in Countries with:		
	Median	High Rates[1]	Low Rates[1]	Difference
ASIA				
Age at Marriage[2] (N=14)	11%	3.4	5.5	2.1
Schooling[3] (N=12)	64%	3.6	5.3	1.7
Economically Active[4] (N=13)	42%	3.3	5.6	2.3
Urbanization[5] (N=13)	22%	3.5	5.3	1.8
MIDDLE EAST				
Age at Marriage (N=16)	32%	6.1	7.0	.9
Schooling (N=16)	34%	6.0	7.2	1.2
Economically Active (N=18)	33%	6.4	6.6	.2
Urbanization (N=13)	39%	6.4	6.7	.3
AFRICA				
Age at Marriage (N=28)	50%	6.5	6.1	−.4
Schooling (N=25)	14%	6.3	6.4	.1
Economically Active (N=31)	53%	6.7	5.8	−.9
Urbanization (N=23)	10%	6.0	6.3	.3
LATIN AMERICA				
Age at Marriage[6] (N=29)	28%	4.4	5.4	1.0
Schooling (N=28)	72%	4.0	5.6	1.6
Economically Active (N=33)	32%	4.0	5.5	1.5
Urbanization (N=23)	23%	4.6	5.3	.7
TOTAL				
Age at Marriage (N=87)	28%	4.7	6.3	1.6
Schooling (N=81)	47%	4.6	6.4	1.8
Economically Active (N=95)	39%	5.2	5.9	.7
Urbanization (N=72)	30%	5.1	6.3	1.2

[1]High rates for socioeconomic factors are those above the regional median; low rates are those on or below the regional median. High ages of marriage are those on or below the regional median percentage ever-married at age 15-19; low ages of marriage are those above the regional median. Calculations utilize most recent comparable data for each country on school enrollment, economic activity, urbanization, and percentage women age 15-19 ever-married on one hand and total fertility rate on the other.

[2]Percentage women age 15-19 ever-married

[3]Gross female school enrollment ratio at the first and second levels. This is the total enrollment of female pupils of all ages at the first and second levels divided by the female population of official school ages for those two levels. Second-level schooling includes general education, teacher training, and other secondary-level vocational-technical training. All ratios are expressed as percentages.

[4]Percentages of women age 20-24 economically active. The International Labour Office defines the economically active population as employers, the self-employed, employees, unpaid family workers, members of producers' cooperatives, members of the armed forces, and unemployed persons with previous job experience.

[5]Percentage of the population living in urban areas, generally defined as cities and towns; national definitions vary.

[6]The data on proportion of women age 15-19 ever-married in Latin America are not a reliable indicator of the prevalence of unions. Using the age-specific fertility rate of women age 15-19 as an indicator, the total fertility rate of countries with age-specific fertility rates of women age 15-19 above the regional median is 5.3, and of countries with age-specific fertility rates of women age 15-19 on or below the median is 3.9 (N=37). Median ASFR of women age 15-19, 101.

Nevertheless, government policies do seem to have an impact on fertility, especially when political leaders demonstrate a strong commitment to social change, including raising the legal minimum age at marriage, establishing effective voluntary family planning programs, and stressing greater participation by women in development.

Chairman Mao Zedong's early commitment to equality for women in China, President Habib Bourguiba's support for an expanded role for Tunisian women, President Suharto's image of stable and respectable family life in Indonesia, and the strong interest of the Shah of Iran and his immediate family in women's issues probably all contributed to changing patterns of marriage among some groups in those countries. In Muslim countries such as Indonesia, Tunisia, and Iran, it is hard to believe that changes would have occurred without such leadership from the top.

A closer look at the political processes in both China and Indonesia suggests, however, that any government needs to move carefully if it seeks to induce changes that affect both personal lives and religious authority as much as laws on marriage may. In China, as noted, the Marriage Law of 1950 set a legal minimum age of 18 for women and 20 for men, at that time the highest minimums in the world. But despite continuing efforts by some public health leaders to raise the minimums still further and despite what amounted to government insistence that marriages be postponed three to five years beyond the legal minimum, the law has not been changed for 20 years, while the government pursued less direct measures, intended to build a climate in which later marriage was acceptable. A clear distinction was made between the legal minimum age set in legislation and the optimal age from the point of view of individual and social objectives, which was always several years older (247).

In Indonesia, there was at first strong Muslim resistance to the possibility that marriage might come under civil rather than religious jurisdiction. Compromise was needed before the marriage laws could be promulgated in 1974 or implemented in 1977. Basically, President Suharto agreed that there would be no change in the substance of Muslim law but that, to prevent arbitrary applications of the law, there would be new procedural protections. In effect, marriages below the minimum age, divorce, and polygamy now require consent of both parties in formal proceedings before the Muslim courts. In this way, without actually prohibiting marriage below 16 for women or 19 for men or prohibiting divorce (except divorce by repudiation), the law made it more difficult and more costly for men to deviate from the desired norms. Because the procedures are enforced by expanded Muslim courts, the religious leaders were satisfied. Because the women's groups, marriage counselors, and family planning organizations could work at the local level to support the basic standards set in the law, these reformist elements also were satisfied (133).

The Indonesian pattern of compromise may be relevant to other efforts to change age at marriage and marriage customs. As June and Ronald Katz point out:

> Some of the reasons for this success may well apply to other potential social legislation both in Indonesia and in other developing countries. At a minimum, it appears that the following factors will facilitate social reform and that their absence will inhibit it:
>
> - Moderation — it may be counterproductive to go too roughly against the grain of a traditional society; encouraging modernist trends which already exist in a small way may be much more effective.
> - Allowances for diversity — it was impossible to legislate unity in a multi-cultural society in one stroke; the best that can be done to foster unity and avoid divisive backlash is to pass a law which lays a groundwork for unity but which does not directly challenge deeply felt cultural and religious differences.
> - Constructive political symbolism — if, as in this case, substantive legal change is impossible because of religious belief, it is helpful to make a virtue out of the use of procedure; if the image of procedural change is used artfully, the populace may well accept it even if in effect the change is substantive.
> - Grassroots persuasive communication — it is crucial that there be government agencies and private organizations with a real stake in the legislation and the ability to effectively translate that stake into effective local political action (133).

In Kenya, on the other hand, the male-dominated legislature has three times rejected a marriage reform bill which, like the Indonesian law, would require the first wife's permission before a man takes additional wives. A provision prohibiting wife-beating was deleted after one member observed that beating wives "taught them politeness" (297). Eventual passage of the Kenya bill may depend on how much support women can mobilize for it. Clearly, changing the rights of men and women in marriage is more controversial in Kenya than family planning, which has been provided by government health centers since 1967 (201).

Only a few countries have actually set age at marriage at a level sufficiently high to have any effect on fertility. Even in these countries, age at marriage was rising before legislation was enacted. In Tunisia, for example, the mean age at marriage for women was 19.5 in 1956, eight years before a law was passed establishing the minimum at 17 (240). Since 1956, the age at marriage has continued to increase fairly steadily until, in 1975, it was 23.3 (73). Other countries, such as Malaysia and Sri Lanka, also experienced increases in the actual age at marriage long before legal changes were approved.

Despite the actions that a number of governments have taken since 1950, the median legal age at marriage throughout the world is 15 (see Tables 14 and 15). In Europe the recent trend has been to set the same legal minimum age for men and women. In Africa and Asia the minimum has usually been raised to 18 for men and 16 for women (197). A few Middle Eastern countries have passed similar laws, but in most of the Arab countries age at marriage is still governed by Muslim law, which allows girls to marry at the age of menarche, or about 12 or 13. Likewise, in Latin America, although six countries have raised the minimum age at marriage to 16 for women, marriages at about the age of menarche are legal in eight countries. Regardless of these legal differences, however, the percentage of women ever-married at 15 to 19 in countries where the legal age is over 15 — 32 percent — does not differ markedly from the percentage ever-married in countries where the legal age is 15 or less — 37 percent (see Table 14).

In addition to the political constraints on marriage legislation in all settings, enforcement of a legal minimum would be difficult in most societies. First, enforcement requires an effective registration system, so that exact ages are known. Secondly, it requires a great deal of social control and administrative efficiency. Thirdly, it requires institutions at the grass roots level, whether civil or religious, that are willing to play an active role in enforcement. In general, the problem of noncompliance has been dealt with either by granting exceptions or by abandoning any attempt to enforce the law. In Iran, a clause was included in the Marriage Law which permitted exemptions for the "proper reasons," which remained undefined. Reportedly the law was rarely observed (170). Few nations in the developing world today would be able to implement delayed marriage policies as stringent as the People's Republic of China's, for instance.

Table 14. Mean Percentage of Women Ever-Married at Ages 15-19 in Countries Above and On or Below the Median Legal Age at Marriage of 15, by Region

	% of Women Age 15-19 Ever-Married in Countries with Legal Minimum Age at Marriage:	
	Above 15	On or Below 15
Asia	21 (N=10)	44 (N=2)
Middle East	39 (N=9)	28 (N=4)
Africa	55 (N=11)	56 (N=8)
Latin America	13 (N=4)	18 (N=17)
Total	32 (N=32)	37 (N=31)

Age at Marriage and Fertility Control

With or without specific legislation or political backing, late marriage has been a factor in the past in reducing fertility. But the introduction and worldwide dissemination of safe, effective methods of voluntary fertility control have added another dimension to the issue. While later marriage will undoubtedly become more common, especially in the countries where age at marriage today is early, and while later marriage will bring benefits both to women and to society as a whole, later marriage as a factor in population growth should no longer be viewed in isolation from the increasing use of deliberate means of fertility control. As young men and women try to adjust to the great social and economic changes now underway in every country, both marriage patterns and contraceptive usage patterns will be affected, often in close interaction with one another.

On one hand, social and behavioral change is likely to diminish the importance of age at marriage to population growth, while, on the other hand, the demographic momentum of previous growth will amplify the impact of changes in age at marriage. There are at least three reasons that a rising age at marriage is having less impact on fertility now than it did in Europe and Asia in the past:

- In nearly all countries where fertility is falling sharply now, these declines are taking place primarily among women over age 25 — most of whom are married and therefore presumably using birth control measures.
- In a growing number of countries, marriage does not always signify the initiation of female sexual activity. Thus an increase in age at marriage in these areas will not

Table 15. Minimum Legal Age at Marriage With Parental Consent, by Country

Region and Country	Ref. No.	Date Reported	Date Enacted	Minimum Legal Age Male	Minimum Legal Age Female
ASIA					
Australia	197	1977	1975	18	16
Bangladesh	13	1979		18	15-16
China, P.R. of	39	1975	1950	20	18
Fiji	197	1977	1968	18	16
Hong Kong	197	1977	1975	16	16
India	3	1978		21	18
Indonesia	197	1977	1974	19	16
Japan	257	1976		18	16
Korea, Rep. of	149	1958		18	16
Malaysia	197	1977	1975	18	18
Nepal	197	1977	1975	18	16
New Zealand	257	1975		16	16
Papua New Guinea	197	1977	1964	18	16
Philippines	257		1972	16[a]	14[a]
Singapore	197	1977	1961	18	18
Sri Lanka	2	1979	1978	18	16
Thailand	197	1977	1976	17	17
Tonga	197	1977	1967	15	15
Western Somoa	197	1977	1961	18	16
MIDDLE EAST					
Afghanistan	334	1979	1978	18	16
Algeria	197	1977	1963	18	16
Cyprus	257	1976		18	16
Egypt	257	1974		18	16
Iran	1	1979		[b]	[b]
Iraq	308	1979	1978	18[c]	18[c]
Israel	257	1975		None	16
Jordan	257	1976		18	17
Kuwait	142	1979		None	None
Lebanon	66	1975		18[d]	12½-18[d]
Libya	151	1979		None	16
Morocco	197	1977		None	None
Saudi Arabia	215	1979		13[e]	13[e]
Sudan	233	1979		None	None
Tunisia	197	1977	1974	20	17
Turkey	257	1975		17	15
Yemen Arab Republic	308	1979		18	16
AFRICA					
Benin	304	1979		None	None
Cameroun	197	1977	1966	18	15
Central African Republic	31	1979		18	16
Ethiopia	322	1976		18-20[f]	12-15[f]
Gabon	320	1979		18	15
The Gambia	308	1979		None	None
Ghana	308	1979		None-21[f]	None-21[f]
Guinea	88	1979		18	17
Kenya	308	1979		15-18	15-18
Lesotho	197	1977	1974	18	16
Liberia	197	1977	1973	16	16
Madagascar	308	1979		17	14
Mali	197	1977	1963	18	15
Mauritius	197	1977	1976	18	15
Niger	182	1979		18	16
Nigeria	308	1979		9-16[f]	9-16[f]
Senegal	197	1977	1972	20	16
Sierra Leone	308	1979		None	None
Somalia	197	1977	1975	None	16
S. Africa	197	1977	1961	18	16
Swaziland	197	1977	1964	18	16
Tanzania	197	1977	1971	18	15
Uganda	197	1977	1973	18	16
Zambia	308	1979		16[g]	16[g]

[a] The Muslim Code of Personal Laws, passed February 4, 1977, sets the minimum legal age at marriage for Filipino Muslims at 15 for males and at the age of puberty, presumed to be 15 years, for females (334).

[b] There have been conflicting reports concerning Iran. The Colombo *Sun* of March 31, 1979 reported that the minimum is now 15 for women and 18 for men. Other reports, however, have indicated that the minimums are 13 and 15 respectively.

Region and Country	Ref. No.	Date Reported	Date Enacted	Minimum Legal Age Male	Minimum Legal Age Female
LATIN AMERICA					
Argentina	197	1977	1970	18	16
Barbados	197	1977	1974	16	16
Bolivia	257	1966		14	12
Brazil	208	1975		18	16
Chile	236	1975		14	12
Colombia	197	1977	1974	16	14
Costa Rica	257	1974		15	15
Cuba	197	1977	1975	16	14
Dominican Republic	257	1975		16	15
Ecuador	257	1975		14	12
El Salvador	197	1977	1976	16	14
Grenada	197	1977	1966	16	16
Guadeloupe	257	1970		18	15
Guatemala	257	1972		16	14
Guyana	257	1964		16	14
Haiti	91	1979		None	None
Honduras	257	1976		14	12
Jamaica	257	1964		16	16
Martinique	257	1970		18	15
Mexico	53	1975		16	14
Neth. Antilles	257	1972		18	15
Nicaragua	257	1977		15	14
Panama	337	1977	1961	18	16
Paraguay	257		1976	14	12
Peru	257		1972	16	14
Trinidad/Tobago	308	1978		16-18	12-14
Venezuela	257	1974		14	12
EUROPE, US & CANADA					
Austria	137	1973		19	16
Belgium	257	1975		18	15
Bulgaria	197	1977	1975	18	18
Canada	257	1977		14-16[f]	12-16[f]
Czechoslovakia	197	1977	1975	18	18
Denmark	197	1977	1976	18	18
Finland	197	1977	1976	18	17
France	197	1977	1974	18	15
E. Germany	197	1977	1975	18	18
W. Germany	197	1977	1975	16	16
Greece	257	1975		18	14
Hungary	138	1974		16[h]	14[h]
Iceland	257	1976		18	18
Ireland	197	1977	1974	16	16
Italy	197	1977	1972	16	16
Luxembourg	257	1976		18	15
Malta	257	1976		16	14
Netherlands	197		1976	18	16
Norway	197		1969	18	18[i]
Poland	333	1979	1977	16	16
Portugal	197	1977	1975	16	14
Romania	257	1976		18	16
St. Vincent	197	1977	1966	16	15
Spain	256	1974		14-16	12-14[j]
Sweden	197	1977	1976	18	18
Switzerland	257	1976		20	18
USSR	257	1976		18	17-18*
UK: Eng., Irel., Wales	149	1969		16	16
UK: Scotland	257	1976	1976	16	16
US	160	1979		14-18[l]	13-17[l]
Yugoslavia	197	1977	1975	18	18

[c] In special cases, permission may be granted to marry at age 15.
[d] Varies according to religion
[e] By Islamic Law
[f] Varies by civil division, ethnic, or religious group
[g] With permission of the court
[h] With permission of Public Guardianship Authority
[i] Under the age of 18, the permission of the king is required.
[j] Dependent on whether it is a civil or canonical marriage
* 17 pertains to the Ukraine only.
[l] Varies by state

automatically mean a comparable postponement of sexual activity and first births. The higher age at marriage rises, the less likely it is to mark the beginning of sexual activity.

- Finally, as age at marriage increases, countries will almost certainly experience at the same time an increase in the availability and use of contraceptives which, whether used by older or younger women or within or outside marriage, will make increasingly important contributions to any fertility decline. In nearly all countries where increase in age at marriage has been an important factor in declining fertility, much of this increase occurred before effective methods of birth control were widely available.

By contrast, there is a very important reason that, for the last two decades of the 20th century at least, age at marriage may remain an influential factor in the demographic equation:

- During the 1980s and the 1990s there will be more young adults in their peak reproductive and marriageable years (age 15-29) than ever before in history. More than 40 percent of the population in developing countries today are under 15 years old. By 1990, there will be 40 percent more potential parents age 15-29 than there were in 1975, and more than twice as many as in 1960—in other words, a total of more than one billion potential husbands and wives, fathers and mothers (62, 331) (see Table 16). If this new generation marries young and then begins to reproduce at an early age, it will be difficult for many countries to reduce population growth to the desired levels even if marital fertility is sharply reduced (150).

With these facts in mind, national leaders and policy makers should not diminish their support for marriage reform, for more equal participation by women in national life, or for extensive family planning programs, but rather should note that changes in age at marriage and age at first birth are an integral part of the process of social change for this new generation in much the same way that lower fertility rates are.

For better or worse, members of this populous new generation will not be willing to follow unquestioningly in the pathways of their parents. They will be better educated, more urban-oriented and probably more demanding of higher standards of living and a voice in policy decisions that affect them. But many will undoubtedly welcome legislation and policies, like the Indonesian marriage law, for instance, or the Korean family planning program, which adapt secular modern ideas or technologies to a traditional culture that is familiar and respected. Some of the legislative measures or policies that would help to meet the needs of these young people and might at the same time delay marriage and/or childbearing until young men and women are ready for it would be:

- Education that not only ensures basic literacy for all, regardless of sex, but also provides realistic training in income-generating activities for women. Adequate training can help both men and women to perform better the tasks that need to be done, including growing crops, raising animals, preparing and storing food, making cloth and healthful foods, providing primary health care, and building and maintaining various community facilities. Such training would necessarily extend at least to age 16, often later, and would open up more income-generating opportunities, especially for women, than would education providing training only for a limited number of white collar industrial or government jobs.
- More employment opportunities for women, including work married women can do even if they have one or two children to care for, so that women will no longer be forced to choose *either* marriage and large families *or* outside employment, but rather will be able to combine marriage, small families, and income-generating work as needed or desired. Also, governments should endeavor to employ more women in the white-collar jobs, especially in the fields of health and education, that women seek. Government employment of women may encourage changes in attitudes that often have confined women to low-level jobs.
- Policies requiring that men and women both share in the care and support of any children they bring into the world. For example, in the Middle East, women should be encouraged to help in producing income for the family whereas in Latin America men should be required to support their natural children. In modern times of economic stress often one parent alone cannot support a family, and both should be encouraged to share these responsibilities between them whether living together or separately.
- Public discussion leading to a clear legal minimum age at marriage, no less than 18, to prevent child marriage and discourage adolescent pregnancies. Both individuals and families should come to recognize that marriage is a serious responsibility meant for adult men and women, not an exchange of female "property" or merely a contract between two families.
- Public recognition that later marriage and family planning require support and sometimes self-restraint on the part of men as well as women. To expect women to delay marriage and practice abstinence while men's sexual activity outside marriage is condoned or even encouraged is unrealistic. As Mao Zedong put it:

  > What sort of chastity is this, completely confined to women, with shrines for female martyrs everywhere? Where are the shrines for chaste boys? (293)

- Provision of information to betrothed couples or education for all young people, making them aware of the heavy responsibilities involved in bringing children into the world and of the ways to space and limit family size so as not to overtax their own health and resources and endanger the well-being of their children.
- Available confidential services or relatively anonymous commercial supplies of contraceptives so that young people, even if unmarried, will not be embarrassed about or excluded from obtaining contraceptives to control their

Table 16. Young Adult Population (Aged 15-29), by Region of the Developing World (in millions)

	1960	1975	1990
China	158.7	230.9	273.8
East and Southeast Asia	66.4	93.2	147.6
Indian Subcontinent	151.6	212.8	328.3
Middle East	36.2	55.4	87.8
Africa	58.3	83.3	127.5
Latin America	54.0	85.8	130.7
Total	525.3	761.4	1095.8

Source: Adapted from Demeny (62). In this table East and Southeast Asia are combined; Burma and Pakistan are included in the Indian Subcontinent; Sudan is included in Africa, not the Middle East; and countries with populations of less than .5 million are excluded.

fertility and will be able to avoid bringing unwanted children into the world.

- Convenient access to family planning services for young and old alike, including methods like the pill and IUD for women who want to space children, sterilization for those who want no more children, condoms and spermicides from commercial outlets for men and women of all ages who prefer to use these sources, and safe termination of pregnancy for those who need this service.
- A voice for women in marriage decisions, including whether and when to marry, choice of mate, divorce, inheritance rights, and, where applicable, polygamy.

Government policies that guide and help young people of both sexes to make marriage and fertility choices in an intelligent, informed, and responsible way will, in the long run, not only be the best way to raise age at marriage and lower fertility to appropriate levels; they will also be the best way to support constructive economic and social development.

A supplement consisting of complete tables listing the data on marriage and fertility used in this report and the sources of these data is available on request from the Population Information Program, The Johns Hopkins University, 624 North Broadway, Baltimore, Maryland 21205, USA.

Marriage data are drawn from UN Demographic Yearbooks (255, 256), UNECA (258), UNECWA (259), country surveys (8, 14, 29, 43, 45, 52, 54, 70, 73, 78, 98, 99, 108, 124, 157, 181, 189, 193, 229, 234, 251, 300), CICRED reports (76, 115, 217, 228), US Bureau of the Census Country Demographic Profiles (272, 274, 277, 278), and Blayo (18). Data on fertility rates, with a few exceptions, are drawn from the compendium of estimates based on country surveys, censuses, and vital statistics compiled by the US Bureau of the Census (271). Data have been adjusted by various methods for underreporting of births and/or base population. For purposes of this report, estimates made by similar methods were chosen wherever possible to reflect best trends within countries. The accuracy of the estimates varies widely from country to country and for different years.

TABLES

Table A5. Age-Specific and Total Fertility Rates, 1960s and 1970s, Asia

Country	Source Code[a]	Year	Age Group 15-19	20-24	25-29	30-34	35-39	40-44	45-49	TFR
EAST ASIA										
Hong Kong	F8	1965	41	252	318	211	122	39	3	4.9
	F9	1970	18	155	233	169	87	31	5	3.5
	F11	1975	18	122	207	123	60	19	3	2.8
Japan	F21	1965	3	112	203	86	19	3	0	2.1
	F22	1974	5	115	200	79	17	2	0	2.1
Korea, Rep. of	F23	1960-61	31	249	338	277	221	124	16	6.3
	F23B	1970	9	184	322	225	112	43	7	4.5
	F25	1975	8	177	266	158	74	37	11	3.7
Taiwan	F50	1965	36	261	326	195	100	41	6	4.8
	F51	1975	37	194	215	83	27	8	2	2.8
SOUTHEAST ASIA										
Indonesia	F15	1967-70	146	268	271	207	137	61	23	5.6
	F16	1971-75	127	265	256	199	118	57	18	5.2
Java-Bali[b]	F17	1967-70	145	256	255	191	127	54	21	5.3
	F18	1971-75	130	254	240	183	106	51	16	4.9
	F19	1966-70	152	254	251	204	140	(60)[c]	(20)[c]	5.4
	F20	1971-75	105	238	221	168	108	51	20	4.6
	F20A	1976	119	256	221	154	86	41	18	4.5
Malaysia, West	F26	1960	125	278	323	257	154	85	(—)[d]	6.1
	F27	1965	80	262	303	241	156	67	20	5.6
	F28	1970	57	235	276	225	143	58	16	5.1
	F32	1975	47	187	238	184	124	46	9	4.2
Philippines	F35	1963-67	74	254	313	281	216	101	20	6.3
	F36	1968-72	56	227	302	272	199	100	22	5.9
Singapore	F41	1965	36	227	260	216	138	55	8	4.7
	F42	1970	26	139	209	138	75	27	4	3.1
	F45	1977	14	93	142	87	29	7	1	1.9
Thailand	F54	1965-69	70	250	290	260	210	150	20	6.2
	F57	1970-74	70	220	220	180	170	80	30	4.9

Table A5. Continued

Country	Source Code[a]	Year	Age Group 15-19	20-24	25-29	30-34	35-39	40-44	45-49	TFR
INDIAN SUBCONTINENT										
Bangladesh	F1	1963-65	276	359	356	260	150	56	22	7.4
	F2	1974	198	337	311	262	197	95	14	7.1
	F3	1971-75	111	289	291	250	185	107	35	6.3
India	F13	1968-69	102	258	269	225	164	79	37	5.7
	F14	1971-72	89	260	261	215	141	74	29	5.3
Sri Lanka	F46	1953	77	290	330	275	168	43	8	5.9
	F47	1963	53	232	284	244	160	47	7	5.1
	F48	1971	43	177	229	203	140	43	7	4.2
	F49	1974	31	146	161	158	126	43	6	3.3

[a]Codes refer to source information listed in Table A3 of supplement, available on request.
[b]Alternative calculations presented.
[c]Estimates
[d]Not known whether excluded from calculation or included in 40-44 age group.

Table A7. Age-Specific and Total Fertility Rates, 1960s and 1970s, Middle East

Country	Source Code[a]	Year	Age Group 15-19	20-24	25-29	30-34	35-39	40-44	45-49	TFR
Bahrain	F62	1965-71	129	336	357	263	189	64	39	6.9
	F63	1971-76	94	260	324	249	171	52	31	5.9
	F64	1976	85	217	301	242	173	49	29	5.4
Egypt	F65	1966	35	205	341	282	240	110	53	6.3
	F66	1973	24	173	264	237	207	95	46	5.2
Jordan[b]	F70	1961	112	319	356	337	205	63	12	7.0
	F71	1974	98	249	324	268	261	95	28	6.6
Kuwait	F73	1965	150	347	399	308	230	71	—	7.5
	F75	1975	128	349	383	288	214	54	22	7.2
Morocco	F78	1962	96	304	310	293	186	107	42	6.7
	F79	1973	74	327	379	322	233	116	30	7.4
Pakistan[c]	F81	1963-65	130	303	373	353	250	114	67	8.0
	F82	1974-75	119	305	360	302	234	107	9	7.2
Tunisia	F87	1966	78	297	349	316	242	121	46	7.2
	F88	1971	40	253	310	280	214	102	30	6.1
	F89	1976	65	237	310	253	176	95	31	5.8
Turkey	F90	1966-67	81	269	260	209	150	60	33	5.3
	F91	1973	64	264	264	205	137	40	10	4.9

[a]Codes refer to source information listed in Table A7 of supplement, available on request.
[b]Includes West and East bank. Rates are suspect because of age misstatement and international migration.
[c]Due to statistical methods used, 1974-75 data are not directly comparable with 1963-65 data shown.

Table A11. Age-Specific and Total Fertility Rates, 1960s and 1970s, Latin America

Country or Area	Source Code[a]	Year	Age Group 15-19	20-24	25-29	30-34	35-39	40-44	45-49	TFR
CARIBBEAN & CENTRAL AMERICA										
Bahamas	F98	1968	74	209	171	130	95	35	6	3.6
	F100	1974	78	178	140	108	64	23	5	3.0
Barbados	F101	1960	135	243	236	186	104	39	4	4.7
	F106	1965	113	181	199	149	114	37	4	4.0
	F111	1973	97	166	184	105	57	20	3	3.2
Costa Rica	F131	1963	117	329	352	287	219	97	16	7.1
	F141	1973	92	199	185	138	99	48	9	3.9
	F143	1975	107	210	173	122	89	40	8	3.7
Dominican Republic	F159	1967	176	341	319	299	220	106	[11][b]	7.4
	F166	1973-74	113	286	246	208	166	52	7	5.4
El Salvador	F169	1961	144	324	328	273	189	73	20	6.8
	F170	1966	144	330	289	239	204	65	35	6.5
	F173	1973	143	290	264	210	171	69	20	5.8

Table A11. Continued

Country or Area	Source Code[a]	Year	Age Group 15-19	20-24	25-29	30-34	35-39	40-44	45-49	TFR
Guatemala	F183	1964	146	297	296	244	188	83	23	6.4
	F189	1972	140	280	277	241	174	89	21	6.1
	F190	1973	133	265	262	228	164	77	19	5.7
Guadeloupe	F176	1963	59	234	296	257	197	99	11	5.8
	F178	1970	57	209	251	195	136	67	8	4.6
Honduras	F196	1961	155	323	344	295	220	93	23	7.3
	F197	1971-72	165	307	336	295	218	123	18	7.3
	F198	1974	159	295	323	283	209	118	17	7.0
Martinique	F210	1963	48	200	285	265	195	92	13	5.5
	F212	1970	51	215	264	189	132	62	8	4.6
Mexico	F213	1960	105	301	316	272	201	69	29	6.5
	F214	1965	103	297	318	248	227	99	43	6.7
	F215	1970	90	281	317	270	200	98	53	6.5
	F218A	1973-75	105	290	302	256	178	83	17	6.2
Nicaragua	F219	1963	148	349	356	238	166	75	12	6.7
	F220	1970-71	101	263	280	241	192	90	33	6.0
Panama	F221	1959-61	152	310	290	201	129	42	8	5.7
	F222	1969-71	142	291	264	197	130	46	9	5.4
	F223	1973	127	241	223	160	111	40	7	4.6
	F224	1975	123	239	220	154	98	33	7	4.4
Puerto Rico	F237	1966	90	215	188	121	85	30	7	3.7
	F245	1974	80	169	170	98	45	14	2	2.9
Trinidad & Tobago	F249	1965	105	245	233	163	114	32	5	4.5
	F251	1975	77	181	164	113	63	22	4	3.1
US Virgin Islands	F253A	1965	154	399	279	175	92	39	3	5.7
	F255	1974	129	155	131	102	61	20	5	3.0
SOUTH AMERICA										
Argentina	F94	1955	60	161	175	119	78	30	7	3.2
	F95	1960	58	165	169	119	69	29	6	3.1
	F96	1965	57	154	162	114	67	24	5	2.9
	F97	1970	67	163	174	121	69	26	7	3.1
Bolivia	F114	1960	77	234	276	259	220	117	40	6.1
	F115	1975	77	254	356	300	215	103	57	6.8
Brazil	F116	1960-70	90	244	275	226	148	72	21	5.4
	F117A	1970	76	252	261	214	157	89	29	5.4
	F117B	1976	74	182	210	194	135	67	20	4.4
Chile	F119	1960	79	218	255	234	149	63	14	5.1
	F120	1965	79	218	232	198	143	62	10	4.7
	F121	1970	79	184	175	129	90	43	8	3.5
	F122	1975	74	173	149	103	67	29	5	3.0
Colombia	F123	1960-64	129	299	337	304	230	98	10	7.0
	F124	1965-66	125	270	321	267	214	95	10	6.5
	F125	1967-68	110	210	278	277	176	85	10	6.0
	F126	1969-70	114	267	283	219	173	110	0	5.8
	F127	1971-72	111	257	241	193	141	90	0	5.2
	F128	1973-74	101	227	211	160	118	55	11	4.4
	F129	1975-76	94	212	221	172	132	53	31	4.6
	F130	1978[c]	54	186	202	156	105	60	20	3.9
Ecuador[d]	F167	1966	94	290	303	240	215	92	32	6.3
	F168	1974	88	245	256	222	172	87	26	5.5
Guyana	F191	1961	150	329	292	229	153	44	6	6.0
	F192	1970	108	280	249	187	123	45	6	5.0
Paraguay	F226	1960	129	280	347	264	162	94	38	6.6
	F227	1972	126	240	300	250	170	64	30	5.9
Peru	F228	1961	124	309	298	281	189	87	24	6.6
	F229	1965	122	302	290	272	182	84	23	6.4
	F230	1970	108	296	321	259	202	84	23	6.5
	F230A	1976	87	237	279	242	194	71	6	5.6
Uruguay	F252	1963	68	167	162	105	59	26	4	3.0
	F253	1975	72	159	163	111	68	21	3	3.0
Venezuela	F259	1965	125	331	320	249	188	69	16	6.5
	F268	1974	109	250	237	197	142	59	13	5.0

[a]Codes refer to source information listed in Table A11 of supplement, available on request.
[b]Estimated
[c]Due to statistical methods used, 1978 data are not directly comparable with 1960-76 data shown.
[d]Vital registration considered incomplete or of unknown completeness

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